Amateur Radio

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**How to fix your radio
so it actually works!**
*An amateur tells how he
transformed his nightmare
into a success story*

**Radio controlled
Model Aircraft**

**WICEN works
CAR
RALLIES**

**Rohan Magrath,
aged 2, son of
Shane VK2KEP:
"if I can do it,
anybody can!"**

**A Digital
Frequency
Display**

**Still on a
high!**
**Trans Tasman VK
contest winner,
Thomas Lynd,
son of Bill VK7KHZ**

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Editorial

Advertising

Office

Postal

Production

Production Deadlines

Our cover this month

See cover story, page 2

Editorial comment

Colwyn Low VK5UE

This last month has been a bit hectic. We seem to have slipped again for no single reason. We are trying to get back to delivery to Australia Post by 7th of the month of issue and next year hope to pull it back another week. However you should note that material is included as it comes to hand so there is still some currency in each issue.

I had to spend some time collecting information on WICEN support of Car rallies in SA and Tasmania to go with articles supplied on the Saxon Safari Rally in Tasmania and the Classic Adelaide and the Coopers Pale Ale Rally SA in South Australia for this issue. I learnt a bit in the process. I have to say that I do get some satisfaction from being part of a helpful and well-organised activity. There are many ways we can participate in Amateur Radio support of community events. Hopefully most of us can do something. Any of these events gets Amateur Radio in the public eye and we have to make ourselves more visable.

Next month I hope to publish some reviews of Ron Bertram's Cram Novice Course. This course is a 1-hour a day for 4 weeks or a solid three-day commitment. You can do it on your own. Results of study in Club environments have been 90% pass rates!

I did get round to operation in the RD and found it good operating. I had the best contacts I have had in years with ZL and I did a bit to work up my CW skills. I had 7 out of 60 contacts on CW. It certainly confirmed to me that practice makes better.

I have to find the time to sort out some support to JOTA on October 19 – 20th and see if I can get the opportunity to have a free look at the cars and the action in the Classic Adelaide rally on October 17 – 20th. Packet will play an important part in the support of this year's Classic Adelaide so I will have to check out how I can set up a packet station in my Beetle. Seeing it still has a 6 V system I need to ensure I have some 12 V batteries. My 70 Ah battery is on its last legs (one cell is dying).

The TV program the *Human Race* involves a round the world race/rally. The contacts in each country are all to be radio amateurs. Australia is included. If you would like to know more, have a look at http:/// www.etecslo.com/humanrace/ index2.html . The race is on and concludes in December this year.

This month think about doing something new with Amateur Radio. We can all learn something new and don't forget that "If you don't use it you lose it applies to your brain as well as your physical capabilities.

73 Colwyn VK5UE

Cover Story

Not so young amateur

But not so old amateur.

Shown in the inset photo, Thomas Lynd, 10 year old son of Bill Lynd, VK7KHZ, operated under supervision in the Trans Tasman VK contest and won.

This just shows that youth and enthusiasm can still get you places in Amateur Radio.

Young Amateur!

'One morning while still in bed, I heard strange sounds coming from my shack.

Investigating, I found Rohan, my two year old son, had managed to set himself up as a CW Operator – fortunately the radio was off! I grabbed the camera, and made the shot.

I have recently used the photo as the art work for my new QSL card.'

Shane Magrath VK2KEP

Interesting thought. Kids of that age pick up languages really easily, perhaps it might also work with CW (Sub-ed)

WIA Comment

Ernest Hocking VK1LK
email: president@wia.org.au
or via PO Box 691, Dickson, ACT 2602

An Amateur Code of Ethics

The Remembrance Day (RD) Contest was held over the weekend of the 17th and 18th of August.

I was torn between giving the contest a go or spending time preparing a paper on the proposed Foundation Licence.

Why not give both a go I thought. A quick review of the Contest Rules indicated that double points could be made by operating CW so I decided that that had to be the way I'd go. I missed the start of the contest since I had agreed to help at a WICEN event supporting a local Car Rally in Canberra.

In between a number of short bouts at the key I still managed to write my document and still have a good day's amateur radio. All in all I had a ball, met lots of familiar names on air, and all at speeds that put me firmly in the novice CW operator category.

So what's the point of this story. The one thing that stuck in my mind during the whole weekend was the way that amateurs put themselves out for others.

Amateurs have a long history of community involvement. Amateurs often give freely of their time to contribute to community events such as those held by WICEN.

Amateurs also take great pride in remembering those who gave their lives in defence of the Australian ideal as witnessed by the large number of people who make the effort to take part in the RD contest. The RD contest is not the big publicity event that we see on the television but rather a quiet celebration of dedication.

Not only that but I was delighted to participate in a contest where the fellow contestants seemed as interested in wishing each other good luck as in winning the event. For me the RD lived up to its reputation as the 'friendly contest'.

Wielding the big Stick

However not everything that we hear on the air is so polite. Of late I have been made aware of a number of cases where amateurs appear to have operated in a manner which does not do credit to the amateur radio service.

The current amateur licence conditions have dropped the requirements that operators use only reasonable language and act in a courteous manner on air. This situation has been forced upon the legislators due to the practical difficulty of enforcing such a rule.

However as amateurs I believe that we should, all endeavour to be polite to each other when operating on air. It does not cost anything to behave well. Most of us do not comment on good behaviour, however poor manners and poor behaviour are always remembered.

An Amateur Radio Credo or Code of Ethics

One of the letters that I received during the recent Take Five survey was from John Rogers VK7JK who proposed the idea of establishing an amateur credo or code of ethics (space does not permit me to include all of John's credo here but I have arranged for it to be put on the WIA web page).

John's view is one that very much originates in the QRP camp. There must be a way that we can widen his view to capture the full breadth of amateur radio activities.

I would be delighted to be able to set up a project to define an amateur radio code of ethics. If there is anyone who would like to take up the challenge then please drop me a line.

Miscellaneous matters

WIA Strategic Assessment

Since last month's notes a team of very capable volunteers has come forward and we have made a start on the WIA Strategic Assessment. At this stage we are reviewing our Terms of Reference and establishing our approach to completing the work.

We will be seeking further input over the next few months on a number of aspects of WIA operations. I hope to be able to report further on our progress in coming months.

Re-appointment of Federal Director

On Sunday 25th of August the Federal council and executive held a telephone conference to formally re-elect David Pilley, VK2AYD, as a WIA director.

This election had to be held since David has reached that wonderful age where despite having a wealth of experience, the Australian Securities and Investment Commission (ASIC) requires that he be specially appointed every year.

Welcome back David and well done for joining the ranks of the respected Elders of Amateur Radio.

Foundation Licence

As referred to earlier a few of us are currently working on a paper that sets out the WIA position on a Foundation licence.

This paper sets out the basis of a WIA proposal to the ACA for the creation of a foundation or entry level licence to amateur radio. This initiative has been prompted by the successful implementation of such a licence in the UK last year.

I would hope that in the next few weeks the paper will be circulated via Divisions for comment by members. If you would like to be involved in this process then please contact your local Divisional councillor for a copy of the paper. I will also arrange for a copy of the paper to be on the WIA web page.

I will bring this month's note to a close and wish you all 73s. I look forward to hearing from you on any amateur radio matters.

Ernest Hocking
VK1LK

Fixing your radio so it actually works!

Mervyn Millar VK5MX
31 Rickaby Street, Croydon Park 5008

So you want to fix your radio? Well so did I, and it almost became a nightmare. This is how the bad dream finally turned out to be a Success Story.

For Christmas 1978 my wife decided on a present befitting an Amateur soon to join the ranks of a Full Call Licensee — a brand new Fukuyama Multi-800D 2 metre FM Transceiver. I failed the exam with 62% of 70%. But I still got the pressy! It had 2 to 25 watt variable output power, an external Digital Display, 800 channels and a few 'nice' features, which I had not realised, and finally got that full-call.

The Multi-800D had two memories: Simplex, plus 600 minus 600 and a 'Free Split'. On Memory 1 you transmitted on the frequency (unseen on the display) and received on the frequency shown on the displays. Memory 2 did the opposite.

It had a variable power out control, which doubled as a SWR indicator. If the SWR to the antenna was good, the variable pot would move the meter pointer in a somewhat linear fashion. If the SWR was poor, the full range of the control pot moved the meter pointer only a short way from zero.

The tuning was done using a single knob with eight positions: 4 for frequencies up, and 4 for frequencies down. This knob was spring loaded, so it returned to the centre position each time you let it go. The first position was a notch for clicking 5 kHz at a time. The next clicked frequency over slowly. The third position was faster and the fourth stepped the whole 144 MHz to 147.995 MHz in 10 seconds. You could count either up or down by turning the switch clockwise or anticlockwise.

At every 100 kHz a 'beep' was heard. If the radio was removed from the power supply, the "OKI" SMS Memories would hold data for up to 3 days. This tiny current came from a Zener Diode, a 1,200 uF capacitor and the 5 V. line. If voltage fell to about 0.5 V., data would be lost and would need reprogramming when power was restored.

Over the years some minor faults occurred. The current limiting resistors

in the display circuits are seven IC-like packs. These had crumbled away, so the displays were not lighting up, but after replacement with ordinary components, they were as good as new. The radio had lost audio signal due to a 'dry jointed' capacitor in the transmit board. It had never been soldered in and fell out easily when given a gentle tug.

Everything went well until 1993. I was testing some very large capacitors, about 0.47 Farads, on the memory, when, unnoticed, a capacitor 'pigtail' fell into the radio's innards.

I switched on, and 'Phuuuutzz!' then silence!

Burnt tracks on the board, 2 display segments blown, and a couple of burned diodes. Not too bad, I thought. I'll fix this pretty quick. New displays, diodes, repaired tracks.

Alas, no joy! The display was doing funny things. More problems. I had joined up too many tracks. This one was supposed to be opened (a different model radio). So I opened that track and bewdy! It worked.

When I tried on the repeater frequency, VK5RAD, some other Amateurs told me

it was 'off' frequency. Checking the actual output frequency showed the 144.000, 144.005, 144.010 and 144.015 MHz readings to be the same frequency.

The output frequency

Counting up, towards the upper frequency of 147.995 MHz, revealed each set was wrong, in other words the 10, 30, 50, 70, and 90 kHz ending were all output, to the odd number base. So 144.000 144.005, was 144.010, and output was 144.010. When the count read 144.015, or 144.020. or output read. 144.025, output was still 144.020 MHz.

Hmmmm. So the Multi 800D sat on the bench in pieces for many years. I reckoned a number of IC chips had blown up. When big fires were raging, near Sydney (1994?) I made a pact: Fix It Or Throw It Away. I found out a number of chips were available. One of these was a M53238, although this was not one I wanted, and was quoted at $126.40 plus tax, plus freight, 4 of them in stock. I thought I would give them a miss.

Another chip available was a M53274 costing $8 each. I bought 2 of them, then decided to get as many chips as I could

PLL SYNTHESISER
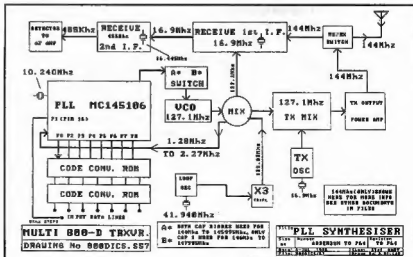
as spares, I built up a 'Workshop Manual' of all the information acquired so far.

That was in early 1997 and because of other commitments, the thing got left on the bench, in pieces, as usual.

The full range

In May 1998 the time arrived to dust off the old Multi 800D and throw it into the rubbish bin. But wait, just one more time — can it be fixed?

Maybe, just maybe. Firstly I needed the full range of ICs I had bought some time before, the Motorola chips were all plugged into sockets and easily obtained and purchased for about $2 each. I looked for a M53345, a 1 of 10 Decoder, located in the Phase Lock Loop. This little beastie puts the oscillator into circuit with the right crystal as needed. This little chip is a godsend. It is a 74LS145 and I have cracked the 'Mitsubishi' (in house) code. If you have followed me so far, you will be able to crack the code too.

The M53238 is a quad, 2 input and gate/s. I bought 15 or so 60¢ old computer boards, at our local (Robbies) disposal shop which makes the chips 4 cents each. Compare this with the $126 plus! Nice work if you can get it. Having got the spare chips, I bought some books and did some studying. (See references). The books I purchased are excellent material, easily read and understood.

The counter

Were the faults in the counter, the PLL, wiring tracks or where?

Firstly the internal counter was saying the same as the external one, i.e. 144.000 and + 5 to 144.005 MHz when notched up. One click of the dial knob. Testing off the logic probe, it did some random checks of the counter output and all seemed OK. Then a brilliant idea occurred to me.

Can the 486 computer be used to look for *any* frequency which reads the same? I think it can. There are eleven data lines from the counter to the PLL. 1 logic probed the lot, putting the results in a chart, e.g. 00000000000, 00000000001, 00000000010 etc. for *all* 800 Channels.

Next I created a database and typed the results into the computer which 'sorted' the data from the lowest to highest number, e.g. 00000000000, to 11111111111, all 800 Channels. Not one number was the same.

Next I repeated the exercise and this time the data was fed *into* the PLL Chip,

(after the PROMS): again 800 readings + 800 inputs to the PC. Result: exactly the same. No doubled-up numbers at all.

Perhaps the Phase Lock Loop integrated circuit chip was crook?

The next job was to remove the 2s compliment pin (Pin 12) from OKI SMS 5807 PLL chip (it sure squealed). I noted volts on pin 12 of the IC socket were rising and falling as frequency altered. An applied +5 V to the leg of the PLL pin 12 altered the output not at all.

Darn, where would I get a MSM 5807 PLL? OKI in Japan don't make or stock these anymore. An MB 8719 by Fujitsu was available, but it had 6 input pins where 8 were really needed. A couple of these were bought and one was 'mocked' into the PLL socket. I was on the right track, the frequencies were all OK right up to 144.775 MHz then 145.775, 146.775, and 147.775.

A VHF radio repairer who owed me favours had three Motorola MC 145106. PLL I.C. chips making his stock shelves bow in the middle. For a sum the weight was removed and Multi 800D had a new PLL and two spares just in case other pigtails happen to fall into the works.

There just remained the simple matter of putting the MC 145106 into a mock-up, check it out, then place the new socket (different pin-outs and more pins), solder it in and replace the lid.

Somewhere, sometime in all the fiddling, someone said that the messy brown gooey glue slopped all over components on the PLL board could cause problems. Dampness gets in, can't escape, and the frequency may become 'odd'. So I scraped that dirty brown galooey all off.

When I tried the old Multi 800D it performed beautifully. On the air, just a

great performance, like a bought one! Only one thing left to do — put the covers on, switch it on, give it a run.

But talk about unstable! Touch the case and it rings like a microphone/speaker in a public address system.

Remove the covers, all is OK again.

Note: the brown glue is important! It is used to hold everything firm and solid so that it cannot vibrate. As the circuit is very sensitive it will pick up vibrations. The output from the speaker in the lid of the case sets up the microphonics and off it goes like a Banshee Wailer in the desert! A couple of squirts of *Araldite* around the coils and up over the associated parts fixed this problem.

At last the covers were really on and the job was done.

Conclusion

Cost of repairs was $50, not including all the spare parts. The price was for 4 Seven Segment Displays. 1 MB8719 PLL and 1 MC 145106 PLL and Socket.

The gain/s for me were: -

1) Satisfaction of getting the radio working again.

2) Learning the 'fun'damentals of the PLL System.

3) Passing on the Information (discovered), to other amateurs.

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A Digital Frequency Display

By Phil Rice VK3BHR

Lot 601K Durston's Road, Maiden Gully Vic. 3551

http://ironbark.bendigo.latrobe.edu.au/~rice

This project is intended to be an accurate frequency display for a HF direct conversion or superhet receiver. It has user settable IF offsets so that it can calculate the actual receiver frequency. It also makes a nice 40MHz. frequency meter with 10Hz. resolution.

The design uses a PIC 16F84 single chip microcomputer to perform the frequency measurement and to format the result for display on a 16 character LCD display.

It is based on a frequency meter and VFO stabiliser by Eamon Skelton EI9GQ. It initially started as an exact copy however I couldn't resist the urge to modify the hardware and the software. It is now missing the VFO stabiliser function of Eamon's design, but has user settable IF offsets (which can be zero for DC receivers) and can handle high or low side local oscillators and display 'USB' or 'LSB' when appropriate.

How it works:

The input signal is buffered by a FET source follower then amplified by two 74LS00 NAND gates, biased into their linear region. Two further NAND gates allow the buffered input, or a signal from the PIC, to clock the 74HC393 8 bit binary counter. Overflow from the counter is counted by the PIC's internal 8 bit prescaler and 8 bit counter registers.

The PIC controls gating of the input signal into the 393 counter. At the conclusion of the counting period (0.4 second), the PIC tickles the 393 until it rolls over. The PIC counts how many clock pulses are needed and from this calculates the count in the 393. The PIC similarly flushes its internal prescaler, as it can't be read directly.

The final 8 bits of the count are read directly from the internal counter register. The complete count is formed by joining all 3 bytes together to make a 24 bit binary number, then dividing this by 4. (This limits the maximum measured frequency to just over 41.9MHz.)

The remainder of the PIC program adds or subtracts the IF offset (if required) converts the result into ASCII characters appends 'USB' or 'LSB' if appropriate and sends the lot to a dot matrix display module (the type that uses a Hitachi HD4780 controller).

A smart looking addition to your set-up

The hardware:

My version was assembled on matrix board (the type that has an array of copper donuts on a 0.1 inch grid). The whole circuit plugs onto the back of the LCD module. A longer connecting cable could be used as it carries only 'slow' digital signals. Layout isn't too critical and the matrix board version works reliably to just over 40MHz.

Programming the IF offsets:

Two pins on the PIC (pins 12 and 13) select one of 3 IF offsets. Pin 11, when pulled low indicates that the local oscillator is on the high side of the received frequency. Finally, pin 10 when pulsed low, initiates programming of the selected IF offset frequency. While the IF offset is being programmed, the RF input must be connected to the appropriate BFO oscillator.

For normal operation, the RF input is connected to the receiver's local oscillator and the PIC uses the stored values of the IF offsets to calculate the received frequency. If neither BFO selection pin is pulled low, the PIC calculates the average BFO frequency

and uses this to calculate the received frequency. If no offset is required, just measure and store 0Hz for both offsets (or pull both pins 12 and 13 low to use the third offset).

Other similar designs

Eamon Skelton, EI9GQ, has a combined Frequency Meter and VFO Stabiliser using the PIC 16F84. It has two hard coded IF offsets. Eamon's design can be found on the web at http://homepage.tinet.ie/~ei9gq/stab.html

Richard Hosking, VK6BRO, also has a combined Frequency Meter and VFO Stabiliser on his web page at http://members.iinet.net.au/~richardh/vfostab.htm.

It uses an Atmel AVR AT90S1200 single chip microcomputer and provides 16 manually programmed IF offsets. Richard has boards for sale at $15 each.

Getting the software:

For Eamon and Richard's designs, visit their respective web pages. It's all there.

The source code for this version is available on the web at http://ironbark.bendigo.latrobe.edu.au/~rice

If you don't want to go to the trouble of building a programmer and downloading the software (you will also need the Microchip PIC assembler), then I

Component layout on matrix board

could be persuaded to visit my local Dick Smith store and buy a chip. I would like to cover my costs (just the price of the chip plus postage). Also, I can personalise the 'sign on' message - at the moment, it proudly announces 'DFM 3.0 - VK3BHR' for 4 seconds. You probably don't want that.

Conclusion:

Now you no longer need dials, pulleys, pointers and string to indicate what frequency your favourite receiver or transmitter is almost on.

The LCD display module, the PIC16F84 and all other parts can be obtained from Jaycar.

Together, they can measure your frequency to a resolution of 10Hz. Accuracy is another matter since the measurement is referenced to a rather crude crystal oscillator. I would expect an error of +/- 100Hz. at 30MHz.even when calibrated. An external oscillator could be used to improve accuracy.

Circuit of digital Frequency Meter

The Radio Control Of Model Aircraft

Godfrey Williams VK5BGW
14 Jenolan Crescent, Hillbank S.A. 5112

Now for something completely different, a Monty Python phrase I think, but here it is, a brief history plus my experiences up to the present time of my other passion, that is the building and flying of radio control model aircraft, including as much emphasis as possible on the related electronic systems. The ARRL handbook briefly discusses this subject (See references).

I became interested in model aircraft in my early teens, my activities being limited to diesel powered tethered flying, two long wires attached to a handle at one end and to the aircraft at the other end which via a bell-crank mechanism, provided elevator control and confined the model to flying in a tight circle.

During the early 1960s, while on an overseas posting, I purchased by mail order from England, a very nice completely transistorised radio control outfit, comprising a handheld control box (the transmitter), a receiver and escapement for installation in the aircraft.

Using transistors this outfit was quite innovative for its day, although primitive by today's standards. My historical knowledge of the methods used in the earlier years are rather scant, but they involved home built valve equipment and the aircraft having to tote heavy filament and plate voltage batteries. The transmitter being too heavy to hold sat on the ground. The operator used a remote wired pushbutton to key the transmitter on and off.

The receiver used would generally be a single valve super-regenerative or TRF type, a super-het because of its weight and size being out of the question. These arrangements proved to be unreliable and prone to interference, so if a model was flown and recovered without mishap, the model flyer considered it a good day and went home happy. It is worth noting that the transistor was very quickly adopted for radio control use.

The outfit I purchased was by and large a miniaturised version of those primitive arrangements and suffered the same tendency towards unreliability, particularly as the frequency then used for model radio control was 27 MHz.

The transmitter was in AM mode and

AUTHORS QUARTER SCALE MODEL OF A MINI-CAB. THE WINGSPAN IS 6 FEET AND WEIGHT 4 KILOGRAMS. THE POWER PLANT IS A 15 CC [FOUR-STROKE] OHC OIL IT.

had only one control, a pushbutton which keyed the carrier on or off. The receiver was a super-regenerative type requiring a 6 volt supply, upon the transmitter being keyed the receiver detected the signal, amplified it to a level sufficient to switch a transistor, which in turn activated a sensitive relay and then via another battery circuit operated a device called an escapement.

The escapement was a rotary electro-mechanical device having a solenoid that was triggered by the relay circuit. This particular escapement had four positions, thus each time the transmitter was keyed the rotor would move to the next position. The motive power for this rotor was supplied by a long twisted rubber band. One end was attached to the rotor and the other end being fixed at the tail of the aircraft. The rotor via a long wooden rod rotated a tiny crank handle at the tail, which via a wire loop

moved the rudder through its various positions. This arrangement was all contained within the fuselage.

Flying

The model aircraft in question had rudder only control. It was trimmed for a gentle descending glide with the engine stopped and the engine thrust line was angled upward slightly to give a gentle climb when the engine was running. This meant that the operator only had to worry about the direction the model was travelling in and would generally try to keep the aircraft flying a circuit while ascending or descending. By limiting the engine run time one could insure that the model did not climb too high also the number of control inputs was limited by the number of twists in the rubber band.

With rudder only control the four positions of the escapement meant that

starting from say rudder in neutral, one momentary press of the push button gave right full rudder, press it again and you have rudder neutral, the next press gives left full rudder and the fourth press brings you back to the original neutral position

Thus if you apply right rudder and then neutralize it and you find that you require right rudder again it is necessary to go through left rudder and the second neutral position before you can apply right rudder again, also it is vital to remember while the rudder is in neutral which is the next position, left or right

The reader by now will appreciate that there is a high potential for confusion to occur, particularly in the heat of the moment. For the operator never having flown this type of model to say I shouldn't get confused probably belongs in the "Famous last words" category.

Early one humid and windless Singapore morning, with my newly completed model, I trekked off to the local park full of anticipation as to the nature of my first radio-controlled flight. In the days leading up to this flight I had conducted many dry runs with the system and felt that I could handle the combination of button strokes required to be in full control. So with the little diesel engine running sweetly and the rudder in neutral I hand launched the model and it climbed away. At this stage I had forgotten to note what was the next position of the rudder left or right? Anyway the model continued to gently climb away, it was now time to turn it, and that's when I became unstuck. I momentarily pressed the button so the model turning viciously to the right, so I quickly pressed the button again to center the rudder but it continued to turn steeply and was losing height.

What the aircraft needed was some left rudder applied to level the wings, however by this time I had become confused and as the saying goes " When in doubt panic" and panic I did. I now began doing stupid

things with pushbutton so the model was now doing crazy antics in the sky. It eventually slammed into the side of some flats reducing the balsa wood and paper structure to a crumpled mess.

So my first venture into flying a radio controlled model aircraft turned out to be a disaster however I persevered over time and with a new model some semblance of control was eventually achieved.

Progress

During this time there were rather expensive but more sophisticated radio control systems on the market. These systems provided more than one flight control so rudder, throttle, elevator and aileron were possible. This was achieved by modulating the AM carrier with separate tones for each control required. The receiver was designed to detect each individual tone and trigger a designated servo (motor and gearbox) linked to the control surface. Although rather large by today's standards, crystal controlled super-het receivers became available and were regarded as a prized possession.

To detect each tone some receivers used a bank of fine metal reeds, each one being tuned to and stimulated by the received tone. Four controls required eight tones thus a bank of eight reeds was required. This was not a reliable system as engine vibration and other factors could upset these delicate devices. One advantage with this more sophisticated system however was we could now dispense with the horrid escapement.

Our control box now had two pushbuttons or a two way switch for

each control e.g. left right, up or down, fast or slow, bank right or bank left. Still the motive power for each control was make or break E.G. Neutral rudder or full rudder, neutral elevator or full elevator and so on. Adding to the problems described was always the chance of a "Shoot down" meaning QRM on 27 MHz causing the aircraft to become uncontrollable and crash. After returning to Australia and re-entering civvy street I dabbled for a while but other more important events took over my life so I abandoned the hobby.

During the early part of 1980 I became aware of the existence of a much improved radio control system. Although still in AM mode it comprised a crystal controlled super-het receiver and crystal controlled transmitter having two joysticks and providing proportional control. Thus the servo driving the control surface moved in sympathy with the joystick.

This system was known as "Pulse Position Modulation " because the transmitter produced pulses of variable frame rates. The servos consisted of amplifier, pulse detector, motor and gearbox and a miniature potentiometer connected to the output shaft, thus the servo was able to follow precisely the movements of the joystick.

The receiver was about the size of two matchboxes and used an I.F. of 455 kHz plus a very smooth and powerful AGC circuit. As a model aircraft is moving rapidly towards or away from the transmitter gain levels vary so an AGC system is essential

A further feature was two frequency bands dedicated to the radio control of

ANOTHER VIEW OF THE MINI-CAB SHOWING ONE AILERON SERVO.

models 29 7 to 30 MHz and 36 to 36.55 MHz. With crystal control, a number of channels could be assigned to each band; thus more than one aircraft could be flown at the same time Amateurs, who are aero-modelers, can and do use the Ham bands as an alternative, in particular the 6 metre band With AM systems a safe channel spacing of 40 kHz is the practice.

Model flying was now a much more predictable affair, precision and realistic maneuvers such as aerobatics, landings and takeoffs, circuits and bumps and taxing just like the full size equivalent became commonplace.

One maneuver I admire is known as a "Knife Edge", the model is rotated so that the wings are perpendicular to the aircraft is now (with sufficient speed) using its fuselage as the lift generator.

Skilful pilots can fly circuits in this manner, however as the tailplane and elevators are now perpendicular and the tailfin and rudder are horizontal their functions change. In other words if the wings are rotated clockwise to the vertical position right rudder becomes down elevator, left rudder up elevator, up elevator becomes right rudder and down elevator left rudder.

If the wings are rotated anti-clockwise to the vertical position, everything is reversed. I avoid this manner of flight, as I don't want to become confused yet again! If the wings are rotated 180 degrees, the model is now flying upside down. Here, the elevator and rudder controls are reversed but the aileron control is unchanged.

Although the equipment available was well designed occasionally mishaps still occurred mainly because of the lack of good quality control, due I think to the fact that the manufactures had a "Toy" mentality

This was to change however as models became larger, more sophisticated and more expensive. Modelers were demanding greater reliability and avoiding equipment with a bad name. Some aircraft besides having the four primary controls may also employ retractable undercarriage and flaps. Now with reliable equipment models wear out rather than be written

off in a crash. It is not uncommon in the present day, for a model to be worth in excess of a thousand dollars or more.

Equipment

I also took an interest in the electronic systems and constructed various support devices like battery chargers, Nicad recyclers and so on. FM mode equipment began to replace the AM systems, lower component count and simpler receivers (No AGC) plus capture effect enhanced the FM systems.

Tiny narrow band ceramic and mechanical I.F. filters were replacing up to three I.F. coils further reducing receiver size and weight, plus giving a better band pass characteristic thus cutting down on the possibility of adjacent channel interference. The transmitter used the varying pulse widths applied to a varicap circuit to frequency modulate the signal. As the bandwidth for FM was narrow (10kHz) frequency shift keying would be a more accurate description.

To further stimulate my interest in the electronics, circuits for the home constructor became available so I could construct my own radio control equipment

Quite a few of these designs for the receiver made use of a chip familiar to amateurs (MC3357). Another chip used being familiar to amateurs is the S042 mixer which together with its partner S041 produces a very sensitive and reliable receiver.

Some amateurs will be aware that the

MC 3357 was used in some early 2 metre sets, and I have observed that pager interference is more severe with sets using this particular chip. Pin 3 is the mixer output being an open collector requiring a 1k5 to 2k resistor connected to the positive rail Here the mixer gain is high being the source of the cross modulation problems. To prevent these problems, some radio control receiver circuit designs reduced the mixer gain by increasing the value of this resistor up to 100k

One single high Q screened inductor with no amplification comprised the front end of the receiver and a simple crystal controlled oscillator resonated 455 kHz below the channel frequency. The circuit following the mixer consisted of two miniature 455 kHz mechanical filters with a simple one transistor amplifier between them. A common 4015 chip providing the decoding plus allowing up to eight separate proportional controls A simple voltage regulator circuit helps to protect the receiver from variations caused by servo drain. A block schematic of the receiver circuit appears in FIG. 1.

Each transmitter has two joysticks each one having two main potentiometers set in gimbals plus two extra pots as trims, the outer pot connections connected to the regulated positive and negative rails respectively while the wiper is connected to the channel input pin of the encoder chip. By swapping the outer connections the
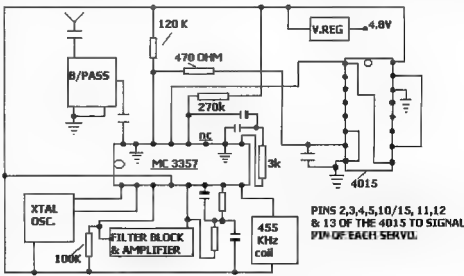
FIG. 1 AN FM RADIO CONTROL RECEIVER USING THE MC 3357.
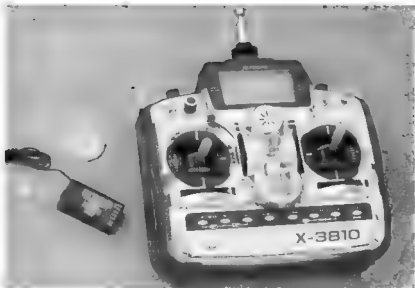
direction of servo travel in the aircraft is reversed.

The encoder chip (NE 5044) by Signetics was produced specifically for radio control systems, its partner (NE5045) was a decoder designed for the receivers and was used in some designs. The RF section used a PNP transistor as a varicap, this being fed to a half frequency crystal oscillator. A coil and capacitor arrangement identical to that used at the front end of the receiver extracted the second harmonic 36 MHz. This then was coupled to a well known 2N3866 RF power transistor.

Following this was a low pass filter, again using high Q inductors, following that a miniature choke resonated the telescopic whip antenna. A block Schematic of the transmitter encoding circuit and RF section appears in FIG 3. A further chip produced by Signetics was the servo amplifier (NE544). A schematic of the servo arrangement appears in FIG 2.
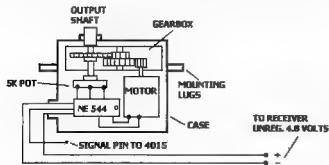
I spent some time experimenting with receivers, in particular dual conversion examples, mixing circuits for transmitters using simple op-amps allowing one control to be mixed with another, e.g. ailerons mixed in with elevator control as is required with delta wing models. Eventually I exhausted all possibilities and looking for something different to do, I constructed a converter for the 6 metre amateur band including a converter for the 2 metre band, hence my enthusiasm for, and entry into, the world of amateur radio.

Physically being able to fly a full size aircraft is no help in learning to fly a model aircraft and vice versa. In a full size aircraft the control yoke and rudder pedals become an extension of the pilots arms

and legs, and he or she is flying by the seat of their pants, that is being able to feel what the aircraft is doing.

A radio-controlled model is different. One can only see what the aircraft is doing. Most model flyers have aileron and throttle on the right hand joystick and rudder and elevator on the left hand stick. This may seem strange to a full size pilot but seems a better arrangement for the model flyer seeing as there is no tactile sense.

One problem that the model flyer has is depth perception, your eyes can play tricks, and one can start seeing "long", when making a landing approach. The model seems close enough, yet ends up landing some distance away. This is not a problem when flying in a large paddock but if you are flying in and out of a small area there is a danger of running into trees, fences etc. Added to this is the further problem that when a model is coming towards you and you are facing it, right stick means left wing down and vice versa.

Engines

The most popular engine used in models is the glow-plug diesel. The *continues*
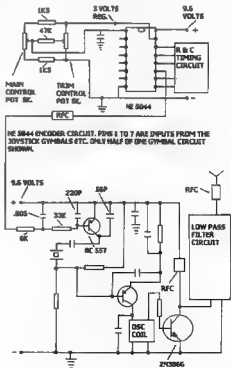
FIG 3 ENCODER & RF SECTION FOR A FM RADIO CONTROL TRANSMITTER.

FIG. 2 TYPICAL SERVO ARRANGEMENT

is an element of tungsten steel, which for starting, is heated by battery power. After the engine is running the power to the element is no longer needed, as cylinder head temperature is sufficient to keep it glowing. These diesel engines can be two or four stroke. The latter even in very small engines have a camshaft, pushrods, rockers and of course valves and valve springs.

The four-stroke engine has a realistic sound when compared to the two stroke. Single, twin and radial three and five cylinder examples are available. The fuel used is methanol and castor or synthetic oil in a 4 to 1 ratio.

The fuel tank used will be the clunk type, that is the internal draw tube is flexible and weighted so that fuel draw is always from the bottom of the tank regardless of the attitude of the model. Fuel draw is achieved by the suction of the engine and some exhaust pressure can be applied to the tank to assist.

Needless to say with such a basic method of fuel feed to the engine only careful management will ensure reliability. This becomes vital when flying a multi-engine model. Perusing some of the magazines dedicated to this hobby (see references), one will see photographs of magnificent examples of multi-engine scale models being detailed down to the last simulated rivet and panel line. There are examples of huge 20 foot wing span examples of B29's, Lancaster's, Dakotas and so on.

Good engineering and management ensure that each engine runs reliably because if one or more engines should fail the flyer has a problem.

In a full size aircraft, say for instance a twin engine type, if the right hand engine should fail, immediately the aircraft will yaw to the right as all the power is on the left hand side. Added to this the dead propeller is now causing drag, further yawing the aircraft to the right. The pilot will now be using large amounts of left rudder to counteract the yaw, but he or she will also feather the propeller on the dead engine, that is turn the blades so that they present the least amount of wind resistance.

This facility is not available for model aircraft so the flyer has double trouble as well as not having any tactile sense so they are in a bit of bother. The golden rule is never turn towards the dead engine, as the aircraft may not recover.

One solution is to shut down the good

engine and allow the model to glide in, however the model is now experiencing drag from two propellers so to keep flying speed the model must have a nose down attitude and therefore will lose height rapidly.

Electric power is also a solution but these motors haven't the raw power of a diesel or petrol engine nevertheless they are continually being developed and are improving at time goes by. Battery technology is advancing and making likely the increased use of electric power in the future.

One exciting newcomer for models is the jet turbine engine, at present very expensive and perhaps not yet fully developed. For hobbyists who have metal skills the jet turbine is a real candidate for home construction. As an alternative, model jet aircraft use ducted fan propulsion. A high revving two-stroke diesel engine driving a multi-blade small diameter propeller contained within a relatively long tube.

Final comments

Aero-modelers mostly operate their aircraft within a club environment that usually provides a permanent flying site, third party insurance, instructors, safety guidelines and generally a good humoured social atmosphere.

Construction methods for the airframes vary, frameworks of balsa and spruce are common. Heat shrink plastic film is very popular for covering the airframe, other methods such as expanded polystyrene foam with a thin veneer of timber, fibreglass mouldings and even cardboard are used.

Safety is always a concern, the integrity of airframes, control surface linkages and so on goes without saying but radio safety, a pet subject of mine, needs to be continually addressed. The majority of models are not large and because of weight considerations a 4.8 volt 500 mAH Nicad pack provides power for the receiver and the servos. Careful monitoring of the efficiency of Nicad packs in use is vital, an aging 500 mAH pack (four AA's) may lose a cell, usually by going short circuit, the remaining 3.6 volts isn't sufficient to support the receiver and servo's so the model will most definitely crash out of control.

The so- called "memory effect" of nickel cadmium batteries has claimed many a model. The flyer may habitually

have three 15 minute flights every week but on an occasion decides to fly for the fourth time. At this point although having previously been fully charged the Nicad pack. as if it has a memory, goes prematurely flat with disastrous results. The answer of course is to give the pack a monthly full discharge and recharge.

The power output of the transmitters is around the 750 milliwatt mark and the receivers have a sensitivity of around 3 microvolt. This gives, with the model airborne, sufficient range to the point where an average 5 foot wingspan model is virtually out of sight. Although the receivers are of good design and quality they are still susceptible to QRM such as fundamental overload from a nearby powerful transmitter e.g. a mobile travelling on a road in the vicinity of the flying site. Also, during times of high solar activity, international signals may appear on the frequency. The frequencies allocated to radio control models, differs from country to country.

A typical scenario for a mishap is if the Nicad pack is nearing marginal voltage plus one or more control surfaces and linkages are binding a little, causing the servo's to draw more current than they should. Some even brief QRM effects the frequency causing a servo to glitch, which momentarily pulls the Nicad voltage lower. All of the servo's may now glitch because with voltage low they will begin hunting for their correct position further reducing battery voltage

At this stage the model will be out of control and the operator in state of panic will be frantically manipulating each joystick and in turn causing more servo movement. Of course this further reduces the system's integrity and a crash will occur. It requires a lot of self-discipline to leave the joysticks alone and see if the model will recover itself.

Keeping the whole system in tip top shape will to a great extent help to combat QRM and as I have explained to my fellow modelers many times, attention to detail is the answer, any seemingly insignificant oversights will when added together make a big difference.

There could very well be for each control surface up to ten points of maintenance when considering the servo's connection to the receiver plus linkages, interconnecting cables etc The installation of the receiver, servo's, switch harness and battery pack is

important. Protection from engine vibration and oil rich exhaust fumes is essential. The receiver antenna, generally about a metre of wire, is routed away from the servo's and metal parts.

The design and manufacture of radio control equipment for the hobbyist has kept pace with technology, surface mount components are now standard and the transmitters are computerized. A modern day transmitter will have a relatively large LCD illustrating the status of all the programmable functions.

The facility of limitless mixing options grows, end point adjustments for each channel, reversing the servo direction, exponential travel, to name a few. The transmitter can be programmed so that for a landing, the undercarriage will lower and the flaps will automatically extend if the throttle control is brought back to idle.

Ailerons can be mixed with rudder to provide automatic co-ordinated turns. Delta wing aircraft having combined ailerons and elevators, V tail aircraft with combined rudder and elevator, differential aileron movement and so on.

The receivers are generally single conversion with a 10kHz channel width, for safety's sake the practice is to allow a 20 kHz spacing. Some systems have a failsafe facility. If interference is present the receiver will lock the controls at a programmable point e.g. throttle back, a slight descent and gentle turn.

I know little about radio-controlled model helicopters. These marvels of model engineering have to be seen to be believed. The computerized transmitter has begun a new dimension in this vastly different type of flying. The ability to electronically co-ordinate the main rotor, tail rotor, engine speed and gyro has removed many of the difficulties in flying this type of model.

Radio controlled models have other uses other than for recreation. Military use them for photo-reconnaissance and target practice. Commercially they are used for photographing crops, surveys and air sampling.

As amateurs generally adopt an area as their own within the hobby, so to do radio aircraft modelers. Some enthusiasts confine their activities to general sport flying, or building and

flying finely detailed scale models, the Super-Marine Spitfire being a favourite.

Large models are constructed for towing radio controlled model gliders just like the full size practice. Some enthusiasts practice endurance flying, that is, the model with a substantial fuel load is flown, usually in a circuit for hours on end or the model is chased by and controlled from a vehicle.

The circuits shown are mainly block schematic, some component values being shown. Should you require additional information, I can supply the manufacturers application notes on the receipt of a large S.A.E. The references list some web sites that are well worth a visit.

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More about the Shack in a Briefcase

by Ron Holmes VK5VH , 8/22 Marden Rd. Marden SA 5070

Since the publication of my article under this heading in the July issue I have received a number of comments and questions. I appreciate the many positive comments and would like to make more clear the matters on which there were questions in case others have them also.

1. The Power Capability

The only references in the article were to using 30 watts from a 7 amp hour gel cell and to keeping the power down to 5 watts when using the S.W.R. bridge. In practice I normally use 100 watts P.E.P. from a car battery or a 13.8 volt supply. Unfortunately the caption intended to go under the photograph of the open briefcase, (Photo 5.) which was sent after the original material, missed out. (see below)-

The switchmode power supply concerned was designed for "testing high power automotive equipment such as car audio and radio communications." It is not a 'stand alone' unit as 240 v terminals are exposed. So I have mounted it to remain in the briefcase with 13.8 volt terminals connected to sockets on an insulating

Here is the "Shack in a Brief-case" complete with an 18 amp (continuous rate) Switchmode Power supply from Jaycar which I have found operates satisfactorily at 100 watts PEP SSB. It is much lighter than the 7 amp hour Gel Cell which I now use in a backpack set-up for which I have purchased, but not tested, a solar panel trickle charger.'

section at the back which covers the 240 v. connections. Naturally the case remains open when in use for cooling.

2. Tuning Possibilities

One question was why not use variable capacity in the tuning. Actually I did this in Mark 1 with a 100 pf variable from the junkbox and it worked OK but I did not include it in the final design for three reasons. Firstly I wanted to design something for which anyone could go to the shop and get the parts. Midget variables suitable for 100W are not easily available to my knowledge. Secondly I found that a vernier control was needed to get it spot on and return to the same frequency. The plugs and length of vertical were easier to replicate. Thirdly, I could be wrong, but it seemed to me that a self-resonant inductance would all radiate whereas a capacitance would not. Certainly the power output meter moved further.

Incidentally, the figures given in fig 4. are not necessarily the only possibilities. Generally speaking it would seem best to make the whip as long as possible consistent with carrying it in the case and keeping it below the ceiling. I should also mention that I have found that on 80 metres the radials at 5m, the coil connected 4-6. and the vertical at 98 cm gives a considerably wider bandwidth than the original suggestions.

3. In Practice

In the article I mentioned that with this antenna you may have difficulty being read in a noisy environment. A striking example happened recently in my regular 3.56 MHz sked. Most members were in the Adelaide area surrounding my QTH with standard antennas. Steve was away on holiday at Mildura 400 km distant, operating stationary mobile. It was a very noisy night. When I tested the Mini Antenna the Adelaide group had trouble reading me through the noise although I could read all of them well. The interesting point was that Steve, VK5ZB, at Mildura gave me a 5/8 report with perfect copy.

15

Wicen Community Support
Car Rallies in Tasmania and South Australia

Colwyn Low VK5UE, Ray Finlayson VK7TRF and Christine Taylor VK5CTY

The Wireless Institute of Australia Civil Emergency Network provides support to a variety of community sponsored events as part of its ongoing training in providing emergency communications. Knowledge gained in establishing propagation paths and practice in message handling are both important aspects of these exercises.

About the rallies

I have received articles on the WICEN operations in support of the Tasmanian Saxon Southern Safari Rally from Ron Finlayson VK7TRF Publicity Officer Southern Tasmania Branch and the Christine Taylor VK5CTY on the Classic Adelaide Rally. I have also participated in support of the Cooper's Pale Ale Rally of SA so this article draws on three sources.

The Saxon and the Pals Ale are rounds of the Australian Rally Championship and have also been considered as possible rounds of the World Rally Championship. Targa Tasmania is a rally run in Tasmania under FIA (the International Rally Body) rules. This year, Classic Adelaide will also be run under FIA rules.

They mainly run Special Sections on forest dirt roads. The Classic Adelaide is run on sealed roads. However the areas chosen for the rallies are in the areas where there are lots of hills, valleys, narrow twisty roads and generally places where it is difficult to establish direct communications links to Rally Control.

The Saxon and the Pale Ale is mainly in the Derwent Valley north of Hobart in the Mt Lloyd – Plenty Valley Forest.

The Cooper's Pale Ale is run mainly in the Mt Crawford Forest Reserves in the Adelaide Hills and the Classic Adelaide in the areas north and south of Adelaide, but behind the Adelaide Hills and some sections are run in the Hills.

Each of the Rally courses requires the use of repeaters and translators to carry communications from the Special Stage Start and Finish points and also from the within stage SOS points back to Rally HQ.

The Saxon Southern Safari Communications Networks

Communications is via three major networks (with some having sub nets), plus individual UHF CB links between competition vehicles and their support crews. The first is the 'On Course net' comprising the local Forestry system of a repeater, mobiles and the vehicles they are mounted in, for the emergency FIV units stationed at all starts, stops and any SOS (midway safety-on-stage and pronounced "soss") points. It also provides a link to the "On Course-Mobile-Officials".

Next, the '*Stage networks*'. An individual Stage net handles the link between each Stage Commander, his/her Deputy and the SOS points and allows for vehicle tracking. This uses a transfer of start and stop times between stations and an observance of vehicle progress through the stage. Any action required

for a competitive car missing en-route can be initiated without delay. Because of the amount of radio traffic involved when there are a number of consecutive stages in close proximity, the Stage radio traffic was divided between a local CB repeater and four mid band VHF repeaters borrowed from "Targa Tasmania". One of these repeaters was situated on Mt Lloyd to cover the long stage, the others on various high points suitable for their particular stages.

The Targa radios are mostly recycled FM900s on their own set of six mid-band VHF frequencies in simplex mode and operated by the volunteers as required or via six portable repeaters that WICEN are normally given the job of supervising during Targa. There can be around ten stages on each day, with each day being in a different part of the State.

The Saxon and the Pale Ale rallies are part of the Australian Rally Championship and the cars, such as this Lancer are state of the art 4WD grunt. Delivery of communications must match the sophistication and expenditure involved.

The Mt Lloyd UHF CB Repeater is normally for use by the local population, but for the event a deal is done and the event usually gets good cooperation from the regular users.

Lastly, the 'Command Net'. This is where WICEN comes in. Apart from the Finish stage and the stage in the high field where mobile phones did the trick, we covered all locations. The net again covers each start and stop point but also has a path back to the Command Centre in Hobart (Rally Base), and handles the overall event-permission-to-proceed and progress information as well as the competitors' stage timings for compilation. The progressive timings and therefore placings in the different classes are then faxed or radioed back to the course for the teams to see mid event as well as for instant results at the last stage. Rally Base coordinates all of the stages and also liaises with the

Emergency Services as the event uses open public roads between stages.

WICEN Radio Plan for Southern Saxon Safari

We used two separate nets to allow for the heavy volume of radio traffic, but even then we had two stages on one net and three on the other, arranged in a leap frog fashion with several overlaps. Clear, concise messages with distinct callsigns applicable to the event and stage were the order of the day.

Firstly, we used a 2 m amateur duplex net via a portable repeater situated on Mt Lloyd to link between stations on the forest floor. This was crossbanded with 70cm for the path out of the forest, down the twisty Derwent Valley to the city based Command Centre (Rally Base). However, with the terrain being a factor and the weather an unknown, this was

backed up with a second 70cm crossbanded link at a different site near Hobart.

Secondly, we ran a similar net (but using a private frequency VHF repeater system, crossbanded with an accompanying private UHF frequency also with a second path as a backup), which is run by one of our members and is used by our members for just such purposes. This second net also allows us to use non-amateur-licensed WICEN members so as to give us a wider coverage, as well as giving us our own backup.

For those who may not know, WICEN in Tassie is a WIA only operation, but we have a number of family members and others interested in radio as a hobby or as volunteer Fire Service operators who enjoy the challenge enough to come onto our team.

The Classic Adelaide and Coopers Pale Ale Communications Networks

There are two separate networks. One that is run using the South Australian Government Emergency Services trunked Radio Network the GRN. The other is Amateur Radio under WICEN.

The GRN carries all the Rally organization Administration traffic and links Official Course Cars, Stage Commanders and the Rally HQ. Rally HQ has total control at all times. The WICEN nets carry safety traffic and scoring traffic.

This year on the Coopers Pale Ale WICEN ran both voice and packet scoring nets with voice as the primary. These nets provide scoring information back to Rally HQ and safety and management traffic. The scoring traffic is handled on a polled system. The net controller calls each stage when they want information. This allows for very efficient information gathering

Stage operators can initiate emergency traffic if required. The packet system worked so well next year packet will most likely be primary. WICEN nets also connected the intra stage operators

Considerable work has to be done by the WICEN team beforehand. They have to site repeaters or translators on strategic hilltops and test them extensively during the weeks before the Rally.

It is not easy to get good radio paths from some of the locations used in the

Classic Adelaide and the Coopers Pale Ale.

Radio operators using the Rally maps have to find out precisely where the start or finish of their section is. Then they have to find a suitable spot, off the road, from which they can make radio contact with headquarters through the allocated channel.

Sometimes it is quite easy, at other times moving a few metres further along the road will make all the difference between a marginal contact (not good enough under these circumstances) and a solid signal both ways.

The WICEN radio design team has to plan the whole network. Wherever possible it uses 2 metre for field stations and translates back to HQ on 70cm. In operation this can require simultaneous operation by up to 5 operators with a transceiver and computer at rally control.

In the field most operators also carry a UHF transceiver as well, just in case. Care needs to be exercised in choosing local net frequencies so that they do not interfere with the UHF backbone. The dedicated WICEN repeaters are used wherever possible; however, in and around Adelaide we have a number of permanent repeaters, which are used if necessary.

The Classic Network

A number of permanent and portable repeaters are used. The dedicated WICEN repeater is set up on Anstey's Hill with its attendant power supply (most recently WICEN has been experimenting with a solar powered unit). This has to be serviced each day in preparation for use. It must not fail at the critical time.

Crafers is the site of the most heavily used repeater around Adelaide so it is not utilized for the rally. Instead, a simplex transceiver or translator is set up on the Crafers site, operating on. Other translators/simplex transceivers are moved around as required. The two regular repeaters most often used, when a radio path is not possible through the

Lotus-Ford 49, a 1968 open wheeler, 3 litre, 415 bhp. A Classic entry

dedicated units, are on Willunga Hill and at Mt Beevor station. With so many choices and channels the radio room at the HQ suit at the Hilton Hotel in Adelaide is very busy. There are far as many as five sections in use at once. Further the radio path from the start and the finish of a particular section is not necessarily the same!

The Cooper's Pale Ale Network

The set up is similar to that described above, but the forest sections means the network for this Rally is more localized member s home stations used as translators. This year four relay repeater/ translators were used, VK5UJ at One Tree Hill, VK5RAH at Houghton, VK5RMB at Murray Bridge and VK5RBV at Angaston. These were linked back to the Rally Headquarters at the Wayville Show Grounds in Adelaide. An Emergency Network "Quickfire" ran linked to HQ on 70cm frequencies.

Post-meetings with Rally Officials allow for input on relocation of stage start and finishes to improve communication reliability. This year's Pale Ale Section Start and Finishes were moved out of the valley floors to allow better communications.

Rally Emergency Events

Accidents do occur and Stages have to be stopped. The FIV (First Intervention Vehicle) with Medical Officers and Fire Marshals have to be authorised to enter the stage BUT ONLY FROM THE START. You do not want cars still competing to meet an FIV or an Ambulance based on. Messages have to be passed on status of rally cars, accident victims and whether the stage is halted or abandoned around stages and back to Rally HQ.

Jaguar E-Type, another classic entry

The Operators

You have to be dedicated to Amateur Radio, WICEN and Community Service to be part of these events, but then some of that is the Amateur Spirit. In Tasmania radio operators and road marshals can camp overnight on the stage. Now southern Tasmania in June is cold at night! The Adelaide Hills at 4.30am can be both cold and shrouded in mist. Yet intrepid Hams do these things just to support a community event. The survey crews spend a lot of their free time checking where stages are to be sited and checking if signals will ever get out of those locations. One Classic Adelaide stage had no room for the Radio Operator's transceivers and aerials and a hand held had to be used to relay the times to the stage's main operating position.

To the best of my knowledge no WICEN support has ever failed to do the job it was set up to support. However,

we have transferred to backup networks and put an extra stage on a network. That says a lot for the dedication and skill of members and professionalism with which they carry out their tasks.

In the Classic Adelaide Rally more than 80 amateurs plus some friends and families are required over 4 days The rally area stretches about 160km from Victor Harbor to the Barossa Valley.

The Coopers Pale Ale Rally SA has 9 separate stages run on each of the two days, some stages are covered twice in the one day. A local Radio Club runs each stage.

Solar and wind power for remote repeaters is now available to WICEN SA

Want something different?

If you want to do something a little different and show the Community Service face of Amateur Radio to the community how about volunteering to help with a local event? They occur in all states and cover a variety of events

New WIA Members

Contests

Central Highlands Amateur Radio Club of Tasmania (CHARCoT)

80m Dash for the Wadda Cup

Overview

CHARCoT is a Tasmanian based amateur radio club that has over 130 members from all parts of the country. A weekly Quiz is held every Thursday evening at 8.00pm local time on the 3.585MHz. The club also holds 2 social gatherings each year, held in the Central Highlands of Tasmania.

One particular get together is held near the township of Waddamana, the site of Tasmania's first hydro electric power station. The landscape of the Central Highlands is stunningly different and it is fitting that the contest trophy is named after the area.

CHARCoT fosters on air contact and provides the opportunity for members to meet socially. With this in mind, it was decided that we should hold an annual contest that is fun, friendly and a little different from the norm. Thus, the CHARCoT 80m Dash for the Wadda Cup was born.

One major difference from other sprint type contests is that at the end of the 80m Dash, a score roll call will be held to reveal the provisional winner of the Wadda Cup.

Contest bonus

The contest also offers amateurs the opportunity of accumulating contacts for 2 Tasmanian awards. The CHARCoT Tassie Trout Award is available to any amateur that makes contact with 14 CHARCoT members. Full details, including the current membership list, are available on the club's website www.vk2ce.com/vk7cht

Also, the Tasmanian Division of the WIA has the Tasmanian Devil Award. Contact with 50 VK7 amateurs is the only requirement on HF. More details are available on the VK7 division website www.tased.edu.au/tasonline/vk7wia

Contest aims

- Encourage on air activity in a short, friendly contest
- Provide amateurs with the opportunity of accumulating contacts for the Tassie Trout Award

and the Tasmanian Devil Award.
- Encourage entry by first time contesters.
- Promote on air activity of VK7 amateurs.

Contest date and time

The contest will be held on Thursday 28 November, 2002. The contest will be 30 minutes duration. The start time is 0900 UTC (8.00pm ESST) until 0930 UTC (8.30pm ESST)

Contest launch

The contest manager for the 2002 80m Dash for the Wadda Cup is Vince Henderson, VK7VH. The contest manager will operate as VK7CHT (CHARCoT club callsign) during the contest. Contact with VK7CHT will earn 2 bonus points. VK7CHT will not be eligible for the Wadda Cup or any contest award certificates.

All contestants are asked to listen on 3.585MHz (+/-), 15 minutes prior to the start of the contest. CHARCoT President Bob Geeves, VK7KZ, will give a short address and officially launch the inaugural 80m Dash for the Wadda Cup.

VK7CHT will give a time check, on this frequency, 2 minutes before the start time.

General rules

1. The contest is open to all VK amateurs.
2. A station may only be worked once during the contest.
3. Sequential numbers, commencing at 001, shall be given and received for all contacts made during the contest. (RS numbers are not required).
4. The contest is phone only, using LSB on the 80m band. Frequencies to be used are from 3.540MHz to 3.625MHz.
5. Maximum power is 100 watts.
6. Single operator entries only. No multi-operator entries are allowed.

Scoring

1. Contact with any VK amateur scores 1 point
2. Contact with VK7CHT scores 1 contact point plus 2 bonus points = 3 points.

The CONTACT and MOVE rule

1. After a calling station makes a contact, the calling station must move their calling frequency by at least 5kHz.
2. A station answering a calling station may make 1 call on the same frequency and exchange numbers with another station. The calling station must then move their calling frequency by at least 5kHz. Example - VK7VH calls CQ contest on 3.560MHz. VK7KZ answers the call and exchanges numbers with VK7VH. When the contact is completed, VK7VH must move frequency by at least 5kHz. VK7KZ may then call CQ contest on 3.560MHz. VK2CE answers VK7KZ and exchanges numbers. VK7KZ must move at least 5kHz etc etc.
3. VK7CHT is the only exception to this rule.

Logs

1. All participants must keep a separate contest log sheet. Use 4 headings - UTC time, Station worked, Number sent, Number received.
2. Retain your log for checking. You will be advised if your log is required by the contest manager.
3. The contest winner and 2nd place contestants must send their log to -
The Wadda Cup Contest Manager
3/84 Clare Street
Newtown 7008
Tas.

The winner

All contest participants are asked to listen for VK7CHT on 3.585 (+/-) immediately after the conclusion of the

contest. Add up the number of contact that you made, during the contest, and if you worked VK7CHT add 2 bonus points to your final score. Follow the on air role call to find out the provisional winner of the Wadda Cup and other contest award certificate winners.

1. The winner will be the entrant with the highest score.

2. Should there be more than one entrant with the highest score, an on air countback will be conducted by the contest manager. The countback will be based on the number of contacts made during specific time blocks. Although the count back procedure will be decided prior to the contest, details will only be revealed during the countback.

3. The provisional winner and 2nd place contestants will be declared official when logs have been received and checked by the contest manager.

4. The contest manager's decision will be final.

The awards

1. The winner will be awarded the Wadda Cup, suitably engraved, for a period of 12 months. The Wadda Cup will remain with the club secretariat and be on display at all important club functions. The winner will also receive the first place award certificate.

2. All 2nd place contestants will receive an award certificate.

Results

When the contest manager has verified all logs, the results will be published on the CHARCoT website.

Results will also appear in Amateur Radio magazine.

Whether you are a keen contester or someone that has not tried contesting before, we encourage you to have a go at the 80m Dash for the Wadda Cup. You may even pick up enough contacts to apply for the Trout Award or the Tassie Devil Award.

The most important thing is that you have fun during the contest and join in the roll call at the end of the contest. (A glass of port may be in order !!)

Goodluck

Vince Henderson VK7VH, Contest Manager

Trans Tasman Winner

Thomas Lynd, son of Bill Lynd, VK7KHZ, operated under supervision in the Trans Tasman VK contest and won. This just shows that youth and enthusiasm can still get you places in Amateur Radio. Below is Bill's description of how 10 year old Thomas reacted when the Certificate arrived confirming HE HAD WON.

The following is the message sent to Bill Renn VK3JWZ, the contest Manager.

"Hi Bruce

What a surprise !! Young Thomas has been on a high since arriving home tonight and opening his mail. I really did not expect he would win anything, I must admit though he was really determined to operate the full six hours and he made me really sit back and take notice. I guess all those portable DX operations he has accompanied me with have paid off!

He is just so happy with his certificates he intends to take them to school tomorrow.

I will arrange the digital photos later this week. I will get Thomas to send you a thank you mail (after he comes down from the clouds)

Bill - VK7KHZ"

So please take note and encourage young people to participate in Amateur Radio activities as soon as they feel able and want to.

ColwynVK6UE

CONTESTS

Contest Calendar September – November 2002

Sep	7	Digital Modes Contest	(PSK31 etc)	(Jul 02)
Sep	7/8	All Asian DX Contest	(SSB)	
Sep	14/15	Worked All Europe DX Contest	(SSB)	
Sep	21/22	Scandinavian Activity Contest	(CW)	
Sep	28/29	Scandinavian Activity Contest	(SSB)	
Sep	28/29	CQ/RJ WW RTTY Contest	(RTTY)	
Sep	28/29	Anatolian DX Contest	(SSB)	
Oct	5	8th TARA Rumble		
Oct	5/6	Oceania DX Contest	(SSB)	(Aug 02)
Oct	6	RSGB 21/28 MHz Contest	(SSB)	
Oct	10	Ten-Ten Intl. Day Sprint	(All)	
Oct	12/13	Oceania DX Contest	(CW)	(Aug 02)
Oct	19/20	JARTS WW RTTY Contest	(RTTY)	
Oct	20	Asia-Pacific Sprint	(CW)	
Oct	20	RSGB 21/28 MHz Contest	(CW)	
Oct	26/27	CQ WW DX Contest	(SSB)	
Nov	1-7	HA-QRP Contest		
Nov	3	High Speed Club Contest		
Nov	8-10	JA International DX Contest	(SSB)	
Nov	9	Anatolian PSK31 Contest		
Nov	9/10	WAE RTTY Contest		
Nov	9/10	OK/OM DX Contest	(CW)	
Nov	16/17	LZ DX Contest (CW)		
Nov	16/17	All Austrian 160 Metres DX Contest	(CW)	
Nov	16/17	RSGB 160 Metres DX Contest	(CW)	
Nov	23/24	CQ WW DX Contest	(CW)	
Nov	23/24	CQ SWL Challenge	(CW)	

Greetings to all readers.

This year has not been the most successful for me in keeping up with all the administrative side of contesting in Australia. Some of this was due to moving QTH in April and some to a computer upgrade – which seems to lead to other things along the way.

For those occasional times when the contest web site was not entirely accurate, I apologise most sincerely.

I was interested, however, about July to read of the latest attitudes to contesting adopted by some of the "big" operators overseas, particularly in America. I have noted previously that the average sum spent per annum on improving a "big gun" contest station in USA is over $5000.

The ideal for these operators is a complete station for all six bands. Ideals are rarely reached, but in this case the ideal of six different transceivers is not necessarily needed, because two rigs can be so easily controlled by one computer. What is necessary, of course, is a complete set of antennas, switchable by computer, as well as by hand.

Feelings are mixed on whether Packet Spotting Nets and DX Nets are useful and/or in the spirit of the contest or not. However, many of these stations would have such facilities.

So far these are only general comments, but in this case the multi-operator areas there has been a great change of approach. The clever contesters working multi operator (whether two or multi) now have antennas and receivers that can listen on the same band whilst the main transceiver is already operating. Why? These stations have gone past the idea of just getting as many contacts as possible, to chasing multipliers. Makes sense, does it not? You will obviously gain more points at the end of the contest by having more multipliers than you will by just having more QSOs than the other operator.

So I hope that you can imagine a team of helpers just tuning bands looking for unworked multipliers and then directing the main operators to those frequencies – or no doubt working it themselves if things are going well for the main ops. Sounds fun? Well, in today's world of networked computer logging, anything is possible!!

I wonder how far behind ideas like

this are we in Australia and New Zealand? I know that we have some very capable contesters who have done well on the world stage, but are they approaching their contests like this?

Are many of you reading this even at the stage of thinking about trying the bigger WW events? I certainly hope that you are and that you will be heard in the Oceania DX Contest in October – only a few weeks away from the time you receive this magazine.

When you see ideas such as those above and then listen to our local contests, you would have to agree that we VK operators are a long way back in the field of operations. I know that the popular contest in VK has always been the RD every August, but at the same time this often gets advertised (NOT by me, I may add) as the "friendly contest".

I have long felt that this immediately undermines the concept of contesting, ie to gain as many points as possible, and substitutes the notion that it is an annual get-together — with "giving a few numbers" thrown in!

Contests can be a genuine challenge and not negative things that need get in the way of our comfortable routines. Some of the ideas presented this month are very serious indeed on the parts of those stations who implement them. Let's hope that we too can learn something from them and strive to improve our station and operating techniques.

I'll be listening for you in the RD. Good luck!

73, Ian Godsil VK3VP

Results

CQ WW RTTY DX Contest 2001

(VKs only:

Call	cat\	score
VK6GOM	SOAB High Pwr	632,388
VK4WPX	SOAB High Pwr	301,718
VK4DZ	SOAB Low Pwr	327,807
VK2DPD	SOAB Low Pwr	311,952
VK5GN	SOAB Low Pwr	232,680
VK2KM	SO 15M	116,480

Results

IOTA 2002

(VKs only –

Call	score	section
VK2CZ	72,540	Multi-op.
VK4TT	14,985	12-hours CW
VK6NU	85,500	12-hours SSB
VK3MMY	30,360	" "
VK1JD	29,484	" "

Remembrance Day Talk 2002

by Mr. Horrie Young VK2AMZ
Former crewman on HMAS Krait and long-serving Radio Inspector.

The Remembrance Day Contest must rank among the most important contests in the Amateur calendar, for not only is it an important measure of amateur communication skills, but it also serves to remind us of our good fortune in being able to pursue the hobby of Amateur Radio with reasonable independence and freedom, unlike the populations of some of the other countries of the world

But we should not take this freedom for granted, because it was bought at a great price in human suffering — much of it being experienced by our own armed services, particularly by those who served during World War II; although subsequent conflicts have also suffered casualties.

It is a matter of record that a significant number of amateur operators in this country were well to the fore in volunteering their services at the commencement of hostilities, and it is equally true that many served in combat with considerable distinction. (See story elsewhere)

Amateurs were represented in all theatres of warfare on land, sea and in the air, and who could forget the almost unbelievable part played by the Coastwatchers of M Force, along with the amazing work carried out by the so-called "stay behind parties" of the Secret Wireless Service attached to Z Special Unit and Services Reconnaissance Department.

These men operated continuously deep inside enemy- occupied territory transmitting intelligence information of incalculable strategic value back to their parent bases in Australia. It goes without saying that there was a good sprinkling of Amateur Operators among their ranks.

Unfortunately, a number of them were captured and suffered badly at the hands of their captors in prison of war camps. However, it is with some satisfaction and admiration that we note their typical ingenuity in overcoming adversity by putting together makeshift secret receivers, and in some instances transmitting equipment, in order to gain some idea of what was happening in the world outside their barbed wire enclosures.

Regrettably a number paid the supreme sacrifice. So it is on this day that we are afforded the opportunity to remember the part they played in enabling Amateurs in this country to continue this way of life so cherished by all, free from fear of any who might seek to harm us.

With the number of qualified amateur operators approaching the 17,000 mark and growing, it is a wise Government indeed that continues to make this service available, while Amateurs in return are able to respond by making available to the Nation a significant pool of skilled communicators, ready and well-trained to help out in any emergencies that might arise, be it floods, bushfires or whatever.

I know you will all be anxious to get on with the business at hand, so I will simply conclude by quoting a few of the words immortalized by Banyon in his poem "Ode to the Fallen"— 'At the going down of the sun and in the morning, we will remember them'.

Happy hunting.

May you have a rewarding contest!

HMAS Krait, then Kofuku Maru, was liberated from Singapore before the fall, spent some time rescuing people along the east Coast of Sumatra. She found her way to Australia from India and was famously used to carry Z Special Force on a highly successful clandestine raid on Japanese vessels in Singapore harbour. Currently MV Krait is part of the Australian War Memorial's Collection.

How I got my Licence. - 25 years to VK—me

VK3PPP Adam Trumble

We've all read about people who take years to get their driving licence. Now you can read about one who took 25 years to get an amateur licence! Although, to be fair, I didn't sit any exam more than once.

I got interested in radio shortly after I left school and we moved house in the mid seventies. A friend in my new neighbourhood introduced me to CB. In those days, there were 23 27MHz channels and they were all illegal!

It wasn't long, though, until the regulator of the day legalised CB (and introduced individual licencing). 27MHz was to be a temporary CB band, pending a new UHF band.

By the time the UHF was available, there were so many 27MHz sets around, they couldn't be phased out, so Australian CBers now have 80 available channels. 40 HF and 40 UHF.

I can now reliably connect to the IRLP node if I stand on the sofa by one window in the bedroom at home!

In the late seventies, I met a friend of my father's who had a shack out the back. Here was a full amateur. My interest was piqued and I signed up for the WIA full amateur licence course, which involved theory classes in Brunswick and Morse Code cassette tapes. I bought a Yaesu FRG 7 HF receiver and had antennas bristling all over the house.

But not long after I caught the flying bug and gave my radio studies away. The Yaesu was sold and even the CBs fell by the wayside more than 10 years ago.

A few months ago, a US amateur friend regenerated my interest in amateur radio, so I searched the Web and found the Radio and Electronics School and Ron Bertrand (VK2DQ).

This time I set my sights a little lower, aiming for the Novice Limited licence.

Emails were exchanged and I was soon the recipient of a couple of CD ROMs.

Ron's four week Novice Cram Course material allows you to learn what you need to know to pass the Regulations and Novice Theory exams in a short time, with the ability to ask questions of a facilitator, by email.

This suited me and I was ready to sit my exams in less than the four weeks. These were sat at the local radio club, and the pass results duly arrived in the post, followed by the Certificate of Proficiency and licence - VK3HAT.

Now I had the licence, but no kit; a situation soon rectified.

My choice of what sort of equipment to buy was limited to the 2 metre and 70 cm bands. With a very uninterested wife, the prospect of creating a shack at home, or putting antennas anywhere visible, were limited.

Anyway, I wanted some flexibility, so I decided on a dual band handheld unit.

I was surprised at the small size of the radios on the market. My new purchase was about the size of a mobile 'phone.

Travelling regularly, my first contact was standing outside my hotel in North Ryde (Northern Sydney) and darting inside periodically to avoid the passing rain showers.

After some reading about IRLP, my second contact was conducted on an in-Rollerblade expedition by the banks of Melbourne's Yarra River, via the VK3RMH repeater. I first spoke to a local amateur, and then connected to IRLP node 461 in Massachusetts and contacted my friend.

This IRLP thing was all new to me, and is a fantastic facility for those restricted to the higher frequencies.

I learned that even with the "big" battery, the little "rubber-ducky" antenna that came with the radio was a limiting feature and I could not activate the IRLP node from home.

A couple of additional purchases saw me with a better (but still less than optimal) antenna and a cable able to connect my handheld to my 20+ year old 13.8V power supply, thus boosting my output somewhat.

I can now reliably connect to the IRLP node if I stand on the sofa by one window in the bedroom at home!

When not on family duties, my preferred method of transport is a BMW motorcycle. This meant the next challenge was operating motorcycle mobile! Without spending a heap of money, this is not easy. No one seems to make anything to assist in this regard.

A motorcycle is a noisy thing and riders must wear a helmet, so forget the handheld speaker.

Finding a helmet with built-in microphone and speaker seems an impossibility (anyway, helmets are expensive). Mucking around with an existing helmet is also a risky proposition, jeopardising the Australian Standards certification.

Fortunately, the handheld manufacturer produces a portable VOX hands free (a bit like a mobile 'phone one), so I was soon equipped with one of those. Now, how to mount and operate the thing? It turned out that part was easy, just so long as I don't want to adjust anything once I'm underway!

I bought a small camera case and cut a hole in the top for the rubber-ducky antenna. Turn the unit on, put it in the case, put the case on the handlebars using the belt strap, connect the PTT/VOX switch to a conveniently placed wire near the left handgrip, plug in the ear piece, put on the helmet, velcro in the mike and I'm away. I decided not to bother with the VOX - the ambient noise would probably activate the mike even with the sensitivity turned down.

My first effort, on the way to work, was a qualified success. At highway speeds, I couldn't hear, but now I know to turn it up.

I have also worked mobile pushbike - that worked too, but my average speed falls away the more I talk!

I have concluded that the small antennas are a bit limited, so my next project is mounting a more substantial one on the motorbike.

I have also worked mobile pushbike - that worked too, but my average speed falls away the more I talk!

Meanwhile, after gaining my Novice Limited licence, I decided to brush up my Morse. I had brushed up once before - 20 years ago to get an endorsement on my Pilot's licence - the test then was 10-WMP receiving groups of 2 and 3 letters, repeated twice. It wasn't hard.

Unfortunately I had thrown out the old tapes, but the Internet came to the rescue. I found a free application and brushed up to 5-WPM standard - I still had my old key. Now I'm VK3PPP!

73 Adam Trumble

Travels with 'mike'

Free Passages To Tasmania

Don't get too excited, it doesn't refer to yourself. Free transportation ceased about 1850 ! I am referring to free travel for your car, campervan or motor home. So bring your radio gear rather than your ball and chain. Though on the other hand...

With the introduction of our two new superfast daily ferries from September 1st, your mode of transport arrives free of charge. And you previously deprived people on the northern island can now indulge yourselves with your visit to "heaven itself" – Tasmania of course. And bring your required radio rigs.

Practically all of Tasmania is covered by VHF and UHF repeaters with (fingers crossed) amateurs answering your calls. Here's a list – starting with 2meters.

N'west & west coast

VK7RMD, 146.625 Mount Duncan (behind Ulverstone) covering the complete coast to Marrawah and through to the Tamar Valley.

VK7RNW 146.750 Lonah (on a coastal headland near Ulverstone) mostly similar coverage, hits some blank RMD spots. Both are accessable well out to sea with handhelds.

VK7RWC, 147.075, Mount Read, (near Rosebery), positive offset, covers most of the rugged west coast area. Permanently linked to VK7RMD, 70cm. WARNING – hams in this area are a bit thin on the ground !

I.R.L.P. available alternate days on VK7RMD and VK7RNW.

North Tasmania (centred on Launceston)

VK7RAA, 147.000 Mount Barrow (East of Launceston) covers all of the central north and well down into the midlands.

VK7RNE, 146.725, Tower Hill (behind Ben Lomond) covers the North-East and upper East coast. Linked to 70cm. VK7RAB on Mt. Arthur.

VK7REC 146.900 Snow Hill (South of Fingal) covers the lower East Coast and central midlands.

Southern Tasmania (centred on Hobart)

VK7RHT 146.700, Guy Fawkes Hill (near Hobart airport) Good coverage of southern midlands, Derwent valley, Hobart area, but very patchy southwards down the Channel area.

VK7RAF, 146.650, Mt. Faulkner, (above Claremont) similar coverage to RHT, linked to northern 70cm. VK7RAB by CTCSS tone.

VK7RBW, 147.875, offset 1.8megs, 146.075, carries the Hobart I.R.L.P.node.

70 cm. Repeaters

North west coast

VK7RMD, 438.600 Mt. Duncan, linked to RWC, 2 metres.

VK7RAC, 438.650, Table Cape (near Wynyard)

Northern (Launceston area)

VK7RAB, 438.550 Mt. Arthur covers most of northern Tasmania

VK7RBH, 438.675 Launceston, covering the Tamar valley.

Central Highlands

VK7RIN, 438.500 Barren Tier, (just south of Great Lake) covering the central Highlands.

Southern Hobart Area

VK7RTC, 438.600 Mt Nelson (behind Sandy Bay), good coverage of Hobart area.

So there you have it – plenty of hams around Tassy to welcome you. Just drive to Port Melbourne with your rigs, get on the ships and enjoy yourselves around this great island State.

WARNING – 14 days absolute minimum – there's so much to enjoy.

See you soon.   Ron, VK7RN.

Amateur Radio Station Records

James McLachlan VK5NB   7 Austral Tce Morphettville 5043
email jimac@picknowl.com.au

If you had to provide a list of your Amateur radio transceivers and equipment for insurance, or for the person assisting your family dispose of it, how would the details be ascertained i.e. the serial numbers?

Following years of working experience with equipment registers, recently I have been assisting with deceased estates. Most amateurs keep no records for their station. Once we found the receipt, box and manual but no set.

Are your station records correct?

To best record station equipment:

1 Set up a station assets register.

This can be a note book with columns noting equipment, serial number, purchase and value (for insurance) etc.

2 Computer formatted record

Have the detail recorded as above. Put it on a disc to be kept else where.

3 Create a document folder

Keep relevant documents and a note for each piece of equipment here.

4 Insurance

Keep a photo of the shack showing all the station. Perhaps also photos of each of the radios etc, with a description on the reverse. This assist, in checking of the records for a non-amateur.

5 Remote records

In-shack records are no insurance use if there is a fire. Copies at a different location will make your claim easier.

If you have your own system and have your station records protected, well done, you are one of a few.

Deceased estates;

A current record will make it easier for the next of kin to manage things and see your equipment passed on to another ham who will appreciate it.

None of us want to discuss death, but to help your family, record the contact numbers for those you wish to handle the disposition of your beloved station.

The WIA SA Division provide a free service to assist past members families remove and dispose of the station and equipment.

If you require further information you can contact us on email or by phone an

Technical abstracts

Rigid Stayed Mast

This space saver could get you out of a tight spot.

In the Technical Topics column of Pat Hawker G3VA in Rad Com May 2002 an interesting antenna support mast appeared. The mast was the work of Ian Waters G3KKD. The mast was designed to be used right on your property boundary and uses rigid stays instead of guy wires. This could be useful for smaller size properties which are common today when a HF antenna must be accomodated.

The mast is shown in Fig 1. Tubes are used instead of guy wires to support a mast located on the property boundary. They are placed at right angles to each other and also oriented to share the load from the HF antenna on the mast. The tubes are joined to the mast by straps made of 14 to 16 gauge galvanised steel. Suitable galvanised steel strap may be found amongst the builders supplies in hardware shops. The stays are attached to anchor stakes driven into the ground.

This mast could also be useful to raise the ends of HF antennas which may have been attached to the fence in the past in order to meet the requirements of the new EMR rules. It should be fairly easy to raise the end of an antenna high enough to comply.
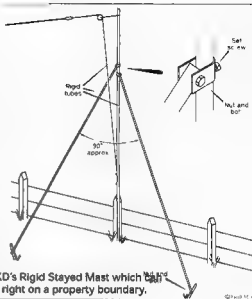

Fig 1. G3KKD's Rigid Stayed Mast which can be erected right on a property boundary.

Stealthy Delta

Keeping a low profile can pay off for urban amateurs

In May 2002 QST Steve Ford WB8IMY described his near visual profile Delta Loop which is threaded through a tree. The antenna is tuned at the feedpoint by a remote automatic tuning unit. This minimises losses due to high SWR on a coax cable run to the operating position. Buried coax is a lot harder to see than an open wire feeder but a high SWR could give high losses.

The antenna is tuned by an SGC-237 tuner at the feedpoint. This tuner senses RF and tunes automatically. It is mounted at the feedpoint which is in the bottom wire of a triangular loop made out of 80 feet of wire. (approx 24.5 metres) The wire is threaded through a tree to minimise visual impact with the bottom wire several feet off the ground. The feedline and the power lead to the tuner are run underground from the operating position in the house.

The antenna is shown in Fig 3. The exact dimensions are not particularly critical as the tuner will compensate. Some trimming may give improved matching by making matching easier on some bands. The exact shape of the loop will be modified by the supports available. The bottom of the loop and the location of the tuner should be high enough to allow access under the loop. The EMR rules may influence this.

If you are trying to work out how to connect to the tuner then the author WB8IMY simply connected one end of the loop to the tuner case/earth stud and the other end to the insulated terminal. Should you be troubled by RF on the cables to the tuner a choke made by coiling the
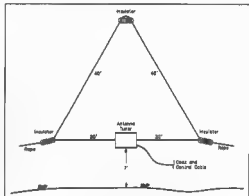
Fig 3. Stealthy Delta Antenna.

cables or running them through some ferrite rings should do the trick.

While Steve used an SGC-237 tuner other brands of tuner could be used. The main requirement is a reasonably wide matching range and a housing which can be mounted out in the weather. Steve WB8IMY was able to obtain a match from 80 to 6 metres.

Correction

A correction to the July Article on "Microwave wattmeters".

Page 18 Centre columnfirst line should have been " 20 microwatt (-46dbm) " not '20 mW (milliwatt as printed)'

Grounded Tower Elevated Feed

Also featured in the Technical Topics column of Pat Hawker G3VA in Rad Com May 2002 was a grounded tower fed with an elevated feed. This came originally from Thomas Russell N4KG in QST June 1994.

The antenna is a top loaded reverse fed elevated ground plane with the tower earthed and top loaded by a TH7 Yagi. The setup is shown in Fig 2. The system resonated at 3.6 MHz with the dimensions shown and had a 17 ohm feed impedance. The matching section shown enabled feed with 75 ohm cable. The cable outer is connected to the mast at the feed point and the cable inner is connected to the elevated radials. The tower is earthed at the base.

The original article by N4KG was noted by Dr John Belrose VE2CV in a paper at an ICAP conference in April 1997 and also in Technical Topics Rad Com April 1998 and Technical Topics Scrapbook 1995-1999.

The antenna also shows how to use scrap cable TV cable as a cheap low loss feedline
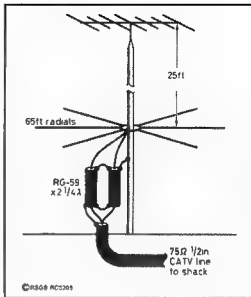
Fig 2. 3.6 MHz Top Loaded Reverse Fed Ground Plane Antenna. The tower is resonated on 80 meters and is top loaded by a TH7 Yagi.

War Birds

Over the weekend of 3-4 August HAMS from the far north of Queensland gathered at Mareeba airport to put on a display of World War Two command radio equipment. These SCR 274N were used in B24 and other aircraft. Contact was made with VK4RAN in ex HMAS DIAMINTINA in Brisbane by CW on 40 metres.

Hams present were Nick Watling VK4YT, Chris Gill, Keith Searle and XYL Barbara, Aub McKibben VK4AFO, Ron Petrich VK4ACZ, Mike Patterson VK4MIK, Ron Goodhew VK4EMF, Wayne Richter VK4ARM, Dennis Bauer VK4JDJ, Alan Whiting VK4HBN, Bill Lochridge VK4WL, VK4BJM J. McKenna and Ian Mullins. Other Hams were VK3, VK7 and a visitor from Gibraltar.

The War Birds club members took amateurs for a fly in Winjeel, Nanchang and Harvard aircraft. These flights in these older military aircraft were both enjoyable and informative. A barbecue was held at the end of the day and DX Broadcast tracking continued into the night.

It is envisioned that the radio display will become a regular feature at this bi-annual event. Hopefully it will become another regular get together for the HAMS.

PAL DA VK4MIK

Writing
for **Amateur Radio**

Most amateurs can talk under wet cement when in their shack.
But these very same people get an attack of the "I couldn't do that" syndrome when they are asked to write an article for the mag.

Of course you can write!

Writing on a subject you know, for an audience that is interested, is really easy. It is just like constructing a radio project, as any written piece is made up of bits that are put together on a paper 'plug-in board' to make a whole that works.. Let's consider the two types of writing, technical and general interest.

General Interest or Feature Articles

You have at least one feature story in you. The general interest writing formula is just a case of arranging *facts, quotes, points of view and anecdotes* in such an order to enthrall the reader.

Start
 Use an anecdote to grab the reader.

Theme
 State your theme. One paragraph

Facts
 Use some facts or quotes to explain your theme.

Anecdotes
 Use another couple of light, bright examples to lift interest.

Facts
 A few more facts and quotes.

Another anecdote
 This maintains interest.

Pictures are great

Conclusion
 Sum up the point or finish with the moral of the story

Subject matter for AR

Anything at all that happens to an amateur operator, any interesting people you meet on the air or in the flesh in a radio context is all the basis for a story.

Do you have a point of view about amateur radio? Terrific. 'Air it and wear it', as strongly held opinions make for great reading

Especially remember the golden rule: interesting subject matter makes interesting articles — *ordinary people doing extraordinary things or extraordinary people doing ordinary things.*

Interesting DX locations make good copy and provide a great pictures.

Local events that are significant for radio amateurs are also of great general interest, especially if the lessons or relevance can be applied nationally.

Tips to make features fly

- Use your own voice and use the words that you use in conversation. *(Note that sentence. Only one word in the 13 has more than one syllable. Very easy reading, very easy writing)*
- Write directly and in the first person. *I talked to Bob* is infinitely better than *a conversation ensued between Bob and myself*
- Write big and edit yourself hard. Having too much material initially is great. It means that you can prune it back to a tight piece.
- Include a picture. Get a picture into the story, the editor will love you, the sub-editor (who makes it all fit), will love you and many more people will read it.
- Stick to your theme. Don't tack on a stray idea. Write another article.

Photographs

Good photos get your article published.
Technical stuff
Standard colour prints from the one hour shop are quite satisfactory.

Digital cameras are great but please use pixel resolution of 300dpi or greater. *(72 dpi is absolutely useless for print.)*
Project photography
Drape a light bed sheet over a chair, sit the project on it and shoot against the draped back.

Use natural light or fixed lighting and slower exposure to avoid hard shadow. If you must flash, angle a white board out of shot so it reflects to kill the shadow.

If you have a SLR, point the flash at various angles and take a shot at each angle, then open up the aperture and select a slow speed and shoot sans flash.

Make the shots tell the story in sequence. Label each photo clearly, either by attaching a note with sticky tape to the back or, for preference, writing on the back of front **BUT ONLY AT THE VERY EDGE OF THE IMAGE** .

Photograph the completed project.
People photography
If you are shooting people, get them close together against a light background and away from the wall, this avoids the 'big head' effect.

People doing things are better than 'shake and smile' or 'footy team' shots. Awards are better shot with people kissing the certificate or holding it near their ear with a grin rather than "the president presenting..." shot.
Cover Photographs
Any radio related aspect is good, any colour photograph is good, but all are much better with both people and rigs in them. If you want a compendium shot, let us put it together for you.

Cover photographs must tell a story.

Cameras do lie
We can manipulate photographs so any photo *that is in focus* is a good one. Old scratched photos can be made like new.

Pack them with a protective stiff cardboard and include a copyright release in the form. "I.. of..., hold the copyright of this photograph(s) and grant *Amateur Radio* initial and residual rights to reproduce it in the course of their publishing activities."

Writing Technical articles

Amateurs love simple equipment construction and design articles Most will not build the project but will enjoy following the steps in their mind.

But someone somewhere will build the project so it must be technically correct or the mail will pour in, or even worse, damage or injury may result.

Reports of experimental procedures or equipment are always popular but remember that you are writing for a great range of skills. Gear your article at entry level rather than advanced, you are talking to amateurs, not engineers.

The Plan

Outline what you want to say, and what you want to get across. For construction articles follow this format.

Introduction

" We are going to build a better mousetrap"

Object

" This will remove mice more efficiently "

Theory

" Irradiation kills mice "

Construction

" First take a small nuclear device.."

Alignment, test and adjust

" Now it is assembled, focus the laser beam on the mouse's......"

Summary

" Having built this much better mousetrap......."

Tech Rules — OK

The general rules for interesting writing also apply to technical articles.

* Use positive or direct sentences and talk in the first person .
* Start a new paragraph with each new thought. (Any paragraph of more than sixty words is almost certainly too long.)
* diagrams and photographs are good.
* Avoid unusual abbreviations.

Specifically in tech articles

* Use subheades. Capitals and lower case, never all caps
* Spell Check the work. Especially ensure that proper names and technical terms are correct.
* Minimise the maths, They are not usually necessary in AR construction articles. Our readers prefer practical projects designed and ready to build. Graphs are next best, maths are last.
* Show only the mathematical steps that introduce new logic.
* Acknowledge other people's work.

Abbreviations, symbols.

Follow the AGPS *STYLE GUIDE* generally and *ARRL Handbook* for tech material.

The common abbreviations are written: Hz, kH, MHz, GHz, mF, pF, H, mH, W, mW, kW, MW, v, kV, MV, A, mA, m, mm, cm, km, B, dB. Do not use full stops or pluralise these.

Separate these abbreviations from the number, ie 10 MHz not 10MHz.

Acronyms are generally capitalised, use AM, FM, CW, SSB, RTTY, ATV, RF, IF, RMS, VFO, AGC, but use ac and dc. The text flow should be informal, but keep away from *hammy* abbreviations such as xtal, XYL xmtr etc.

Find out how your computer does Greek symbols and use them. But always provide a hard copy print out of your text, in case the printer's computer has Ω where you have µ (On Macs the Keycaps under APPLE in the menu bar finds the way, on PCs in Word Insert>Symbol is the way)

Diagrams Illustrations and Schematics

Supply the drawings on separate papers/ files and note them in your text. Do not paste them electronically into the text.

We can clean up drawings if needed. But make sure that your sketches are correct, complete, neat, clean and readable. Faxes usually will not do.

Put parts values on the schematic and include a separate parts list. Use terms R1 and C2 etc. Label the drawings numerically; Fig 1, Fig 2, etc.

At the end of your article list the figures with a caption by each one.

Put the article title, your call sign and /or your name on every piece of paper.

If in doubt, call Newsletters Unlimited before you start. (03) 9756 7797

PC Board

If your project involves a PC board, send a positive of the board Separately sketch out the component layout. If the positive is not the same size as the board, tell us.

Submitting articles

Manuscript Submission

* Include a covering note itemising what you have included in the submission such as copy schematics, photos, captions
* Provide a brief biography, readers like to know a little about the writer. With 1000 word articles and up supply a headshot if you wish.
* Identify fully every separate sheet.
* Number and callsign the pages.
* Electronic submission is 1000% better than laser, which is 500% better than ink jet, which is better than ribbon print, which is better than hand block capitals, all of which are far better than longhand.

Electronic submission.

An absolute:
Paste your callsign into every file title as the last thing you do before despatch .

We prefer Word files but.rtf and ASCII.txt files are also acceptable. If you cannot save in one of these formats, save in your format but note the format type on the disc and on the manuscript cover.

If you have electronically generated diagrams, please provide these saved at 300 dpi as tiffs, jpeg or EPS.

Attachments to email are most highly preferred, CD, 3 inch discs, are all very acceptable means of transport

Absolutely critical:

Supply a hard copy, printed **exactly** from the discs or files you supply us.

What will happen

The editors will arrange publication of your article at the earliest possible opportunity. This may be a little time as we may wish to include it as a special feature, or 'balance' a particular issue.

Ask early

If you have any doubts about processes, call either the editor Colwyn, or John or Gill at Newsletters Unlimited before you start. It saves you and us a lot of time.
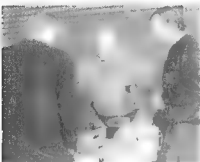
Division News

VK2 Notes

by Pat Leeper VK2JPA

The NSW Division recently held a Trash and Treasure at Wigram Street, which was well attended and quite successful. The weather was kind and ensured a good roll-up on the day.

1 John VK2WRT helps potential buyers with their choices

2. Some of the amateurs attending

3. Aub, VK2AXT, Divisional Librarian, sells magazines to Max VK2AFE

The success reflected the effort that John VK2WRT, the Divisional Trash & Treasure Officer, and others had put into the project.

Home brew

After the Trash & Treasure, there was a Home Brew meeting upstairs where Mark VK2XOF and Stephen VK2TQ gave talks to about twenty interested amateurs.

Stephen has forty years experience as an engineer in various metal processes and gave a very interesting talk on metalworking that can be done with a home workshop.

Assisted by Peter VK2EMU, he showed various examples of methods of making all the aspects of boxes for home brew gear

4. Stephen VK2TQ checks his notes while delivering his talk on metalworking

It is good to see that home brewing is still thriving. These meetings are held every two months after the Trash & Treasure, which is on the last Sunday of the odd months during the year.

Sixteen Candidates

At the August examinations held at Wigram Street, there were sixteen students sitting for the various subjects. Who said amateur radio is a dying hobby!

Examination dates

The examination dates for the rest of the year (excluding September) will be the 20th of October and 1st of December. Applications are due on the Thursday 10 days before the exam date.

That's all for this month — see you next time.

VK7 Notes

What with ATV, meteor scatter contacts, good exam results, Subaru Safari with WICEN, things are starting to happen around Tasmania.

Scattering everywhere

Rex Moncur, VK7MO, is really into this moonbounce, meteor scatter and other sub-audible communication techniques, travelling all over the country, testing here, testing there, having a great time and leaving some of us Plebs staggering!!. He's been guest speaking around our branches.

Exam results

VK7RO, Richard was quite chuffed this week when all three of his pupils sat for their respective ham exams and all passed. Congratulations to the pupils (hopefully three new calls on air?) and to Richard, their teacher.

ATV

ATV is being rejuvenated in the South with the weekly broadcast from the Domain centre televised.

Our "Spectrum" Monday night magazine programme has been televised for some months now on the North-west coast. Our 670 node IRLP from VK7AX in Ulverstone is now using ADSL broadband – it has improved it's use greatly. We are getting a lot of contacts to the extent that we are having problem finding hams here with enough time to answer them all.

VE8MOM, Fred, in Calgary has now got his "Tassy Devil" award, he is now pushing for the top award of 100 Tasmanian stations with the help of our IRLP nodes.

Subaru safari

The Southern WICEN group, with Gavin O'Shea, VK7HGO at the helm had a very successful Comms exercise on the 10th and 11th of August when 17 amateurs and 21 helpers did the communications for the Subaru Safari rally through the Styx valley forestry roads south of Hobart. One portable WICEN repeater and a commercial High band rig on top of Mt. Lloyd enabled some very difficult terrain to be covered. Starts at 5am were the norm, only two amateurs got lost in the maze of forestry roads but there was really no excuse for one of these who had his GPS with him !!.

Altogether a very commendable performance for our Southern hams.

Cheers for now,

Ron, VK7RN

VK1 Notes

Forward Bias

Peter Kloppenburg VK1CPK

Refrigeration is not a subject that you would expect to hear about at a meeting of Radio Amateurs, although every one of us enjoys the benefit of having a fridge in the home. Because of their reliability, we never bother much about their principles of operation. However, because most of us are curious about scientific processes, the committee accepted an offer from Robert D. Dew (VK1DE) to talk to us about fridges and explain exactly how they work

So it was on the evening of Tuesday, July 22 that Bob explained how fridges work. He said that refrigeration takes place in a loop of copper tubing to which four devices are connected, each performing an important function. In order of succession, they are compressor; condenser; vent or metering circuit; and evaporator. Bob explained that the refrigerant that runs through the tubing is Freon. The important characteristic of Freon, and of all other refrigerants, is that when compressed and then suddenly released through a vent, the resulting vapour drops by more than 40 degrees in temperature. This vapour runs through the evaporator that is located in the top section of the fridge. Cooling the air inside the fridge is achieved through convection.

With drawings, Bob explained that the compressor receives the low pressure vapour from the evaporator and adds pressure and heat to it. The Freon then enters the condenser where it loses much of this heat and turns into a liquid again. From there, the Freon passes through the vent under high pressure, and turns into a low temperature vapour again.

Bob was very thorough in explaining the theory of operation, and demonstrated the operation of the components of the loop by showing their insides through cut-away sections. With photos and drawings, he showed us what large refrigeration plants look like. These included industrial size compressors, cooling towers, and huge circulation fans. Near the end of the evening, we were so well informed about refrigeration that we nearly felt confident enough to apply for a job as refrigeration consultant at Parliament House.

Who is doing what: Gilbert Hughes (VK1GH) and Richard Elliott (VK1KRE) have used an UHF direction finder to locate LIPD devices that interfere with our 70-cm repeaters. Eric Piraner (VK1EP) has donated a vacuum cleaner to the Division for duty at the Farrer Hamshack. Kerry Richens (VK1KRF) has been appointed Farrer Station Coordinator and is busy performing maintenance duties.

The next General Meeting will be held on Monday, September 22, 2002 at the Head Quarters of the Australian Maritime Safety Authority (AMSA), 25 Constitution Avenue, Canberra City, at 20.30 pm. (look for the Ernst & Young building)

VK3 Notes

By Jim Linton VK3PC
WIA Victoria web site: www.wiavic.org.au
email: wiavic@wiavic.org.au

It was a GASS

The Great Australian Science Show 2002 included an impressive display of amateur radio. Due to time constraints in writing these notes for AR magazine, a full report is not possible.

However it was a delight to see the look of amazement on the faces of children wearing headphones and taking part in an IRLP contact with a radio amateur in New York.

The WIA Victoria and its member clubs had a team of volunteers in attendance over three days of the GASS held in the Melbourne Museum.

Apologies for the briefness of this report which results in a lack of the recognition due to the team of about twenty volunteers who rostered over a three day effort - congratulations on your weeks of planning which resulted in an eye-catching display that included a large HF beam suspended from the ceiling.

RD Contest true purpose

In recent times the reason for the WIA's Remembrance Day Contest as a commemorative event may have become misunderstood by some.

Sadly there are those who are still wrongly describing the RD Contest as being in memory of those who died in all wars.

A ham news item headlined "A special tribute for Remembrance Day 2002", said, and we quote: "Remembrance Day pays tribute to those who 'paid the supreme sacrifice' during World War Two. However, like ANZAC Day, now honours ALL Amateurs who died as a result of wars during this the 2002 RD Contest weekend."

This interpretation of the purpose of the contest is incorrect. The WIA created the RD Contest to specifically commemorate the radio amateurs who died as a result of being involved World War 2.

It is held close to 15 August. VJ Day, the date when hostilities ceased in the southwest Pacific area.

Let it forever remain to be a commemorative event for WWII and not be corrupted as being in memory of those who died in all wars.

Not all amateurs who lost their lives due to WWII were Signallers but a great proportion were. Sigs attached to platoons did it tough, apart from personal gear and weapon they also carried the radio and its spares.

WIA Exam Service

After a slow start, the number of exam teams in Victoria has grown to 14. This gives a fair geographic spread of exam centres and apart from north-central Victoria most of the state is covered.

WIA Victoria Councillor, Jonas Sadauskas VK3VF is monitoring the situation and may approach clubs and individuals who were previously involved in exams to see if they can fill in any gaps in the examiner network.

A full list of the WIA Exam Service Team Leaders and their contact details can be found in the Resources section of the WIA Victoria website.

Foundation Licence update

Further consideration has been given to the introduction of a new low level entry licence, similar to the British Foundation Licence. Indications remain that the ACA is unlikely to change Australia's amateur licensing system until early 2004.

Currently there are five licence grades in VK. The expected end to mandatory Morse code testing for amateur licences at the World Radio-communications Conference 2003, will cut this to two – Novice and Unrestricted.

Should the Foundation Licence be introduced post WRC03, then there would be three licences. There are indications that, long term, the ACA would prefer just two types of licences.

The WIA has been discussing the concept of a Foundation Licence with the ACA, and apart from it still not wanting to introduce a new licence before the implementation of changes out of WRC03, it is prepared to consider a detailed representation from the WIA on the matter.

At a recent WIA Victoria Clubs Forum the issue of the Foundation Licence was discussed, with some club officials reporting people wanting to get on a waiting list for the new licence.

The Forum also agreed that the Foundation Licence examination paper should be a combination theory and regulations test, and that a pass in it be a prerequisite for higher grades of licence.

This would mean that the Foundation Licence exam paper would replace the current Regulations Exam, as we know it today.

Such a change would also meet the ACA's desire to simplify the licensing systems.

VK4 Notes - Qnews

Bundaberg Social Meeting

The social meeting held at the Bundaberg SES HQ on 20th July was a very successful gathering with 25 attending.

The IRLP demonstration created a lot of interest, as did the hands-on playing with some of the more expensive test gear available to commercial technicians.

So successful was the gathering in fact that the Club decided to put aside 41 years of tradition of having the AGM on the fourth Wednesday night of August, and changing it to the last Saturday afternoon of August. One thoughtful 'farmer' Club Member even half filled the tray of his pick-up with avocados and sweet potatoes for members to help themselves.

The older members were amazed by the re-appearance of an amateur whose last QSO was thirty-five years ago and has kept his callsign for all that time and wants to get back on the air.

Special Interest Groups VHF

How many radio amateurs would like to get technical and contribute to the design of a new project?

This is what they'll be doing after a recent meeting of the Brisbane VHF Group. The proposed constructional project is something interesting and useful - a 2.4 GHz down converter for receiving S-band satellite transmissions. Overall design, selection of available components, and the practicalities of real amateurs actually getting such a down converter going. Both constructing and testing it.

RF construction still ranks high on the agenda of the Brisbane VHF Group! Both VHF Group members and other interested amateurs are welcome to join in this exercise at meetings on Wednesday evenings. That's at the Kelvin Grove High School starting, as usual, around 7:30 pm. Hope to see you there!

Gold Coast Net

Kay VK4HKA is running a women's net, 4.00 pm Gold Coast repeater 146.700. The first net by all accounts was a great success. All are welcome to join in.

Short Wave Listening

Stephen Hogan an SWL from Emmaville, New South Wales, recently qualified for the prestigious Sunshine Coast Amateur Radio Club, Pelican Award.

Stephen uses a YAESU FRG-8800 communications receiver and a long wire antenna. For some years Stephen has found enjoyment listening in to the club's 80 Metre Net conducted each

Compiled by Alistair Eirick VK4MV

Thursday night at 7.00pm on 3.595 MHz. Stephen forwarded comprehensive logs for 6 June and 22 June, 2002 and should soon receive the award. Congratulations Stephen.

Hamfest

Now don't forget the Hamfest of course on November 9, Albert Waterways Hall Broadbeach. Outdoor tables as well as car boot selling with lots of bargains.

Digital Changing Partners

The Queensland Digital group (QDG) has lost all of its HF forward partners and is trying to find Amateurs that want to use RF instead of Internet forwarding.

Of course we COULD give you an email address, but the QDG sensibly NOT wishing to be reliant on the Internet and believing Amateur communications should not be reliant on non-Amateur links has these frequencies for you.

If you would like to participate try these frequencies: 7.030 (USB) or 7033 (LSB) for those who don't want to use USB. 10.144 - 14.101.7 - 18.102.2 all USB. Any BBS that would like to be a forward partner please attempt to connect to VK4TX-0 (BBS on HF) or the router VK4TX-8 on any of the above nodes. 1200 baud PSK (PSK carrier of 1500 Hz)

73s from Alistair

VK6 Notes

Members active with their QSLing, should be aware that there are a number of countries that have no incoming bureau

Cards therefore cannot be forwarded to the following:

A5, A6, D2, J5, KH0, KH1, KH4, KH5, KH7K, KH8, KH9, KP1, KP5, P5, S7, T2, T3, T5, T8, TJ, TL, TN, TT, TY, V6, VP2M, XU, XW, XZ, YA, ZD9, 3C0, 3C, 3W, 3X, 5A, 5R, 5T, 5U, 7O, 7Q, 8Q, 9N, 9U, 9X.

Countries that restrict the forwarding of QSL cards to anyone other than members of that country's national society include the following: Egypt, Monaco, France, Morocco, Germany, Poland, Japan, Portugal.

Please when having new QSL cards printed remember the following:

Bureaux are becoming concerned that with automation, there is a necessity for cards to be of a more conforming size. The size, which has been found to be the most favoured, is 70 to 110 mm, by 120 to 160 mm., preferably sized at 110mm by 150mm The weight to be under 3 grams. Postal charges are still on the increase for overseas mail and the weight of cards is the usual determining factor. So to assist the bureau, please keep your QSL cards as lightweight as possible

And please, on the back right hand corner of the card, print in large print the callsign of the destination station,

as this helps greatly when sorting the cards into their country of destination at the bureau. If in the callsign there is a U make it look like a U and not a V.

A change has taken place over the last year or two, with the large overseas bureaux now posting with longer intervals between their dispatches, with packages naturally being heavier. It is usual now to receive boxes of cards from W, DL, and JA, weighing in at 1 kg or more A box of cards from France arrived recently, with the previous delivery being over 12 months ago It weighed in at 1 9 kg. and on the same day, one from UA at 1.7 kg.

Hopefully in a month or two, a regular VK6 column will appear. Till then 73
VK6NE

Club News

ADELAIDE HILLS ARS

In July AHARS visited to Entech; a local manufacturer of printed circuit boards of such excellent quality that they are exported all round the world.

About 50 club members toured the establishment where each process in the manufacture of high quality printed circuit boards was explained to us. It was interesting to see the mix of high tech and low-tech methods used.

Many members were pleased to see familiar computer programs being used to design the layouts of each layer (up to eight layers can be done). The complex and specialised drilling machines and photoexposure techniques caused a certain amount of comment.

A breath of fresh air came at the very last process, the one that adds the labels for the components etc., as this is done by silk screening using squeegees. That we all understand. It is interesting that no more complicated or more accurate method has been found to replace the simple silk screen to add the letters we look for when we need to understand a circuit or to replace a component (where that is possible).

Another, almost Club activity this month was to welcome to South Australia a visiting family of amateurs from G-land. OM Colin holds several callsigns as he has operated in a number of countries, YL Sally has a full call and daughter Lindsay has one of the new foundation callsigns. Brother David is still working on it but will probably succumb.

John VK5EMI hosted a barbecue at his home for the visitors to which a number of AHARS amateurs were invited, then, on the Wednesday, the group, with John and his XYL Diedre joined Geoff and Christine at their bush shack for a small taste of the life away from the city.

Hopefully if other amateurs are planning to visit anywhere in VK-land they will let some of the locals know so they can be welcomed into our homes.

Gippsland Gate Radio & Electronics Club Notes

Members of the GGREC wish to thank all who helped or participated in this years Hamfest. Girls you were great It was bigger and better than ever. It is a "must do" for a lot of Amateurs now. We have outgrown our venue and are already revising next year's event. So it will be appreciated a lot of organizing goes into this event and a special thanks has to go to our top man who got out of a flu bed to make sure the day succeeded. Reg Goddard, VK3UK, A VERY BIG THANK YOU.

Our Club has use of the "VI" prefix to mark the 25th year of existence. The Club callsign VI3BJA will be used at Club events and by allocated operators until the end of the year. We will be sending confirmation to those who contact the Club when using this callsign, so if you hear it on any band at any time give it a call to help celebrate our 25th year.

As the year is winding down, we still have a few things on the Club scene to keep the members interested. Saturday the 14th is to be a Pub night at the Highway Club in Noble Park. The September general meeting on the 20th will feature a demonstration of some of the equipment on the market used in conjunction with "Home Automation" which even in its simplest form can make your life a little easier. Come along and see what technology has to offer. The October general meeting will see Phil Pavey VK3YB give a talk and demo on some of the latest digital modes. This takes a lot of keeping up with but our man Phil knows what noises are what.

No introduction is necessary for the annual JOTA/JOTI. Bruno, VK3BFT will be OIC this year. As usual, your support will be requested so come forward to assist. Operators will be recruited at the next meeting. Please help Even an hour or two makes a difference and spells others.

Please note that if someone you know is sitting an Amateur exam, the last one for the year, to be run by Peter VK3VB will be on the 30th November. The closing date for applications is the 15th November. This will be your last chance to get a callsign (& perhaps a new radio) for Christmas.

CUATNM = See you at the next meeting.

Ham Shack Computers

Alan Gibbs, VK6PG
223 Crimea Street, NORANDA WA 6062
Email: vk6pg@tpg.com.au
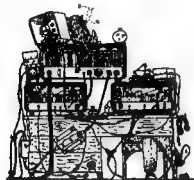
Part 18 – Log Keeping

Radio Amateurs, especially our experienced veterans, have stacks of old differentsized logbooks lurking on bookshelves creating a panoramic history of their owner's operating skills. However, finding an elusive DX station entry amongst the pile becomes very tedious. Once a computer has been installed in your Ham Shack, the first use that comes to mind is an electronic version of your old and new paper logbook(s). Separate logs are needed for alternative call signs, contests, special events, and DXpeditions. If you could do all this on one application with search, merge, export and import and much more – life would be easier, with extra time to enjoy a wonderful hobby with less paperwork.

UTC	kHz	Mode	Call	Sent	Rcvd	Name	QTH
24-08-2001 08:12:20	14070 000	BPSK	F5ONG	559	599	Yves	Lesan
29-08-2001 06:50:59	14070 000	BPSK	VK2RAS/1	599	599	Dave	Canberra
29-08-2001 06:56:37	14070 000	BPSK	G3KOJ	599	599	Ray	Waterlooville
29-08-2001 07:09:30	14070 000	BPSK	G3KOJ	599	599	Ray	Waterlooville
29-08-2001 07:12:42	14070 000	BPSK	G3ZFZ	559	599	Gordon	Barrow
28-09-2001 02:25:57	14070 000	BPSK	VK3IGN	599	599	Issaby	Wangaratta
25-09-2001 00:27	14070 000	BPSK	VK2RAS	599	599	David	Sydney
28-09-2001 07:11:08	14070 000	BPSK	VK5AL	599	599	Ken	Adelaide
28-31-2001 07:29:11	14070 000	BPSK	G4TGK	449	559	John	New Romney

Edit   Delete   To File   Close

In today's world, finding a Ham Radio dealer or Society that even advertises and sells logbooks has become a rarity. There must be a message in here somewhere that suggests there is a better way to manage the activities of your AR operations. What's needed is a simple display on your computer screen giving contact details and the ability to search and manipulate the data similar to the basic image shown here taken from the DigiPan Logbook.

Research...

...via the Internet reveals well over 100 different computerised logbook programs designed for Amateur Radio use. Most have differing characteristics and many are complicated to use and not interchangeable with other users especially contest managers. To survey and evaluate this myriad of programs would take years of work, so we usually decide which program is best based upon recommendations from other users. Visiting a friends shack, or from a demonstration at your local club, and by actually seeing the applications in use then applying the knowledge gained to your own specific requirements is by far the best tactic.

Diversity...

...defines what you want the program to do, and which operating system is used on your computer. For example, there are excellent DOS based programs like HAMCOM that run on old XT/286 computers (VK2VN, QTHR) but they are limited and don't have all the options and give you access to all the modern digital modes offered in Windows based programs. It's a difficult decision to which the reader must ultimately decide. The more modern Windows based programs are versatile and have colourful displays, maps, external control for rotators, and many other virtues including specific parameters for

contesting and multiple log keeping. The writer has settled on YPlog (1) because of its simplicity, diversity, and stability on all Windows platforms including Microsoft XP.

Printing QSL labels, duplicate QSO checking, IOTA identities, full station control and regular updates for country lists are all desirable attributes in a modern Log Keeping program. Short Wave Listeners too would find YPlog an asset. For DX hunters, YPlog can also run packet messaging, Telnet, and DX clusters where spots are just "clicked" and automatically entered into the log to save time. Ideal for S+P (search and pounce) operating on the crowded DX bands.

Problems...

...for readers to consider are what do I do about the old logbooks? How long would it take to enter every QSO into the new electronic logbook? The answer is not simple. Decide from what date you are to commence the new electronic log and stick with it because to re-enter thousands of contacts made over many years would take forever. However, for newly licensed operators, this is a dream come true when starting from scratch in a magnificent lifelong hobby.

Backing up your log is a MUST DO job just in case your computer crashes and everything is lost in "cipher-space" forever.

Options...

. are counted in their hundreds now the whole concept has been "computerised". For example, a YPlog logbook window is shown below. Note the detail given for date, time, country, zones, beam heading, DX CC reference, DXCC reference number (2771). At the top of the screen, note the options like File, Award, Beam, Refresh, Update, New, Search, Delete, Freq, Prev, CW, RTTY, and Size

Selecting File reveals a drop down menu offering hundreds more options which the reader is invited to explore like the quick view DX CC statistics shown below.

Popular Logging Programs...

include CTlog, TRlog, Shacklog (2) and SDLog (3) written by EI5DI, and many more, all of which have differing parameters and should be explored by intended users who seek specific options that are desirable in their own circumstances. One option taken from YPlog is the opportunity to operate SSB or CW directly from the Logging Program (see AR Magazine last month). These attributes would not only suit contesters and DX hunters, but operators who have difficulties using a Morse code key or keyer YPlog sends perfect code every time and is much easier to read in the heavy QRM on the DX bands.

Once programs like these are tried and used on your Ham Shack Computer, life will never quite be the same again.

For readers who prefer to stay with their paper logbooks, then why not use your Ham Shack Computer to print the pages and compile an expanding logbook in a plastic covered ring binder. The results are terrific On the other hand, most logbook computer programs have options to automatically print the logbook pages so you can add them to your expanding ring binder. The results look very professional.

Tracking information...

...for duplicate contacts is easy with computerised logging. It saves on duplicated cards and relieves QSL managers from processing unwanted cards. Alternately, programs can track much-needed cards and reminds you accordingly - a nice feature of its own.

Summary

Making the final decision is a personal one that should not be taken lightly However, once done, your whole AR operating practices will become streamlined - then stick with it The writer offers YPlog as just one suggestion, but there are many more programs currently available that are equally as good. Many programs use "plug-ins" like HamScope and MMTTY for multi-mode enthusiasts where the data is linked to the electronic logbook as well as sending and receiving on air contacts

Ham Tip No. 18

Look at the *Ham Shack Computers* Web Site links for YPlog and download AZIMUTH, a program that displays maps of the world in Great Circle or Mercator views. Other information includes grid squares, latitude and longitude values, Maidenhead squares and is ideal for VHF/UHF enthusiasts seeking accurate DX information

Ham Shack Computers, Part 19 - "Computer QRN" for next month discusses ways to minimise QRN interference heard on your AR receiver. Suggestions will be listed in a quest to quieten your computer so that you can dig out those weak signals without listening to buzzing noises generated by your Ham Shack Computer!

References:

1. *Ham Shack Computers* Web. www2.tpg.com.au/users/vk6pg
2. ShackLog: www.shacklog.com.uk
3. SDlog EI5DI www.ei5dl.com

GL ES 73 TU CU DN THE LOG DE ALAN, VK6PG SK

ALARA

Happy Birthday to ALARA

The last weekend in July is always celebrated as ALARA's birthday.

In 1975 the idea of an organisation to extend the interests of women in amateur radio was conceived by Norma (at that time) VK3AYL, a university student from a family background of amateur radio (her mother Bobby still holds the callsign VK3PXS). The idea was taken up with enthusiasm by other YL amateurs and by XYLs of amateurs generally.

After a couple of meetings in Melbourne LARA was launched to YL amateurs in the other states, with Myrna VK5YW, Heather VK2HD, Linda VK4LL, Anne VK7LY and a VK6WL taking it in turns to conduct a weekly Net.

Currently there are well over 100 YLs in ALARA in Australia and nearly as many sponsored members in countries all round the world, the sponsorship/friendship idea becoming part of ALARA almost from its inception.

A Birthday Net is held on the last Saturday evening in July and Birthday Luncheons are held in some of the states each year on the Sunday.

This year there was a conflict with the New Zealand 80 metre Sprint, for the first hour of the net, nevertheless there were nine YLs at one time or another during the second hour including two ZLs Bev ZL10S and Celia ZL1ALK, and five out of the seven states of Australia were represented by the VKs.

VK5 Birthday Luncheon

This was attended by 11 YLs and 6 OMs. One of the guest YLs was a surprise as Marilyn VK3DMS had arranged to come to Adelaide that weekend for a visit and to attend a Woodworking Show with some friends Marilyn took the opportunity to come the very first birthday lunch she'd ever enjoyed It is not easy for country people to be in the

city at just the right time.

Mary VK5AMD and Lorraine VK5LM, two of the regular attenders from the country were missing this year but Janet VK5NEI from Wasleys and Meg VK5YG and Jennifer VK5ANW from Murray Bridge were present.

Two of the YLs do not have licences. Sue and Lesley, but ALARA has always had a number of non-amateur members. Shirley VK5JSH was delighted to be able to fit in the luncheon before she went across to VK6 to help her daughter settle two small children into their new home.

We were pleased to have Debbie VK5JT; one of our youngest members present, Jeanne VK5JQ and her OM Keith managed to organise their teenagers so they were able to attend (as they plan to do again for the ALARAMEET).

Jean VK5TSX our State Rep and Christine VK5CTY made up the eleven YLs. Though perhaps the number should really have been 12 because VK5GAL was also there. She sat in the middle of the table. She has been to several of the Birthday luncheon and also went across the Nullarbor to the Perth ALARAMEET even though her maker, Meg was not there for that occasion.

Palermo 2002 YL Meeting

The 6th International YL Meeting was recently held in Palermo, Sicily, with 76 YLs and 33 OMs attending.

All present talked non-stop, exchanged greetings, hugs and kisses and small gifts over the 4 days of the Meet and managed to enjoy themselves in spite of the unseasonal heat and humidity. We discovered that Sicily is not FLAT – we were continually climbing steps or steep slopes to see the sights or pop in to that "handy" little café for a cold drink.

A radio station had been set up at the

hotel with the callsign of IQ9YL which created dog-piles in Europe but didn't have much propagation to VK at the proper times.

During the days, bus trips had been arranged when we saw interesting ruins, cathedrals, catacombs, cork trees, old towns, the Marsala winery (where we toasted absent ALARA members) and Cefalu's medieval laundry (wrongly translated in our programme as "medieval lavatory", causing some bemusement when we finally saw it!).

Planned evening activities included a formal Dinner (with speeches, singers/dancers etc.) and a Folklore Night where we were all supposed to wear national costumes. Bev VK6DE, and I settled for Aussie hats with corks dangling and we each carried a 15" high kangaroo on the end of a 2' spring so she bounced when we walked, causing much hilarity. We declined to sing *Waltzing Matilda*.

I had handed out copies of a sheet of "typical Aussie tucker" and I now have visions of the Japanese population being introduced en masse to lamingtons!

All left the Meet with bags of interesting "goodies" and an invitation from the YLs from South Korea to visit them in Seoul in 2004.

de Gwen, VK3DYL

October ALARAMEET Report

As of early August we have over 40 definite bookings and nearly as many others who are interested, so it all sounds as if it is ready and rearing to go.

An interesting program of activities are planned including a dinner on the Saturday evening to which most of the Lower Murray amateurs and wives are coming along with a number of other VK5s. We would be delighted for any touring/visiting YLs and their OMs to join us for the dinner, too, but do ask that you let us know beforehand so we can book for you.

Contact Jean VK5TSX by phone (QTH callbook and phonebook) or my email on vk5tsx@bigpond.com please.

73, Christine

What are band plans for?

According to Old Timers; way back in the 20's and 30's, our bands had no real 'band-plan'. Progressive stations employed crystal control, and as these were expensive items, just one or two crystals had to serve for both CW Morse and AM work.

As can be imagined, this mix of modes caused significant technical and operational problems. During the late 40's and early 50's, due to greatly improved components and techniques, there was a rapid change from predominately crystal control (or less than perfect VFO), to VFO control of frequency of a (usually) quite acceptable standard. Amateurs were thus largely able to transmit on any frequency within an authorised band.

As far as can reasonably be determined, band-planning was being observed to a significant degree in the United States during the 1930's (Ref. 1). Certainly by 1944 a graphical band-plan was published by the A.R.R.L. (Ref. 2). But by that time, the war had caused amateur radio to be closed down in most countries.

When the amateur frequencies were fully returned in the late 40's, there was a huge influx of new enthusiasts, and, with the availability of cheap war-surplus radio equipment, our bands were alive with AM and CW signals. It was soon realised that an even-handed method was needed to bring about a degree of order, and so make more efficient use of the amateur spectrum.

The topic of a workable band-plan was raised by European radio societies in May 1949 (Geneva), and more thoroughly thrashed out and agreed upon in Paris during May 1950 (Ref. 3). From the beginning, band-plans have been voluntary in most countries, in the belief that considerate amateurs would remain sensitive to the needs of their fellow spectrum users.

It appears that the rest of the world followed Europe and America's lead, and the HF band-plans that we now enjoy are largely based upon this early work.

Today, more than ever in the past, there are even stronger technical and operational reasons for us to adopt band-plans. Consider that in addition to 'phone and CW, we now have many extra modes such as digital and slow-scan TV

With an agreed band plan, users of the various modes have only to search a limited range of frequencies in order to find a contact on a given mode. For example, on 50 MHz, a CW enthusiast need only tune from 50.100 to about 50.109 MHz during a DX "opening" to find contacts.

Furthermore, on our lower bands (particularly 1.8 MHz) it is not uncommon, where limited space is a factor, to have to use an antenna which can only cover part of a band, and so the antenna is "tuned" for that portion of the band where the desired mode is approved.

Our existing band-plans have been worked out by consultation, and have evolved over many years to (by and large) reflect the needs of our radio community. By separating wide-band modes (like SSB and SSTV) from narrow modes (CW and most digital), the likelihood of mutual interference is greatly reduced. Band-plans align remarkably well on a world scale, so that serious DX enthusiasts may reasonably expect to contact stations of the same mode on an agreed part of a band. DX "windows" are a particularly good example.

Even if a frequency appears to be unoccupied, it is wrong in principle, and in practice, to use a wide mode at any time on any part of a band which is designated for narrow modes.

Furthermore, it is quite possible that a distress call may go out on one of our frequencies. It would be tragic if such a signal were lost due to interference from some inept operator insisting on his right to operate "wherever he chooses". Even if a frequency appears to be unoccupied, it is wrong in principle; and in practice, to use a wide mode at any time on any part of a band which is designated for narrow modes. There may be a signal there that is down below the noise floor and yet be readable with the right equipment.

When we have a genuine commitment to something worthwhile (like our radio avocation), most of us "play the game", and gladly obey the rules because it's part of the understanding. Sadly, we have a few of our fraternity who feel that they have some grievance with the band-plan, and continue to use a mode which is inappropriate for a particular part of a band. An occasional breach is usually tolerated by ethical users, and is excused as being due to an operating error, or lack of experience.

But when an infringement is perceived to be deliberate, sustained, repeated, and even scurrilous in nature, then probity is challenged.

We have a communal responsibility for correct and orderly conduct on our precious bands. Ethical amateurs should therefore resist the temptation to take hostile issue with such transgressions. If a polite explanation and request to move is ignored leave it alone. An on-air slanging-match solves nothing, and may actually aggravate such behavior

It must always be remembered that, although these selfish operators are mocking the band-plan, they are never-the-less still entitled, by the terms of their licence, to work in any part of an authorised band that they choose.

In summary; the orderly, efficient and safe use of our frequencies is aided by band-plans Band-plans apply to all amateurs- WIA members and non-members Unfortunately, we have in our ranks a hand-full of disgruntled operators, who appear to be bent upon undoing the valuable work of dedicated radio amateurs over decades. We must try to ignore their poor example, and not be drawn into such anti-social behavior Band-plans are published on the Internet, and in the WIA Callbook.

Drew Diamond, VK3XU.

References:
1. "The Editor's Mill" (editorial), QST, Oct. 1936, pp 9-10
2. ARRL Handbook, 1944 pp 14-15
3. "World at Their Fingertips". John Clarricoats, G6CL, RSGB, 1967, pp 219-220

AMSAT

Bill Magnusson VK3JT

AMSAT-DL aims high - VERY high.

AMSAT-DL (Germany) announces formal go-ahead for future space missions "Phase 3-E" and "Phase 5-A". A new era for Amateur Radio and Amateur Space Science.

In July 2002 the AMSAT-DL (Germany) board of directors gave the go-ahead to develop and build the two spacecraft, AMSAT-Phase 3-E (P3E) and AMSAT-Phase 5-A (P5A). Very favourable responses expressed in a recent AMSAT-DL member's survey led to the decision.

Both will be created in a common development process by an international team led by AMSAT-DL.

The P3E satellite is to be launched as a communication and scientific platform into a highly elliptical Earth orbit.

The second project with the working name "AMSAT – Phase-5A" is destined to enter an orbit around the planet Mars. Yes, you read that right – MARS! The spacecraft will then transmit scientific data from on-board experiments to Earth.

It will also provide a repeater function - from experimental packages to be launched from P5A itself, some into the Martian upper atmosphere and some to the Martian surface. Obviously this is a very ambitious project and has been the "holy grail" of Karl Meinzer for many

years. Karl must be delighted that it now seems to be coming to fruition.

The latest of the phase-3 series, P3D (AO-40), showed sufficient propulsion and bus capabilities to reach Mars. Based on experience and the great interest during the AMSAT-DL International Satellite-Workshop last year, the P5A spacecraft will carry scientific experiments and sub-payloads to be released towards the Martian surface.

Suitable launch windows to Mars exist in 2007 and 2009. Two or three years earlier P3-E will be launched in an orbit around Earth and is expected to continue the successful series of AMSAT-Phase 3 satellites.

The main task of P3E is to serve as communication platform for the nearly 2 million radio amateurs worldwide. Using existing technology and implementing the results of the member's survey, several transponders on frequencies between 145 MHz and 10 GHz are planned for P3E. Details will be fixed in a design and payload meeting in the second half of 2002.

Additionally the P3E spacecraft will be an important test bed for some technology needed for the Mars mission. Work on the P3-bus has been started and a number of modules are already under construction. So far all AMSAT-DL satellite missions in 1980, 83, 88 and 2000 were launched with ARIANE-launchers from French Guyana into geostationary transfer orbits.

The excellent co-operation between Arianespace (with its current ARIANE-5 launch system) and AMSAT-DL resulted in the development of various arrangements for the launch of secondary payloads on-board ARIANE launches. Thus Arianespace will be the first obvious choice for the launches of P3E and P5A.

The initial project announcement was made in late July via the AMSAT News Service by Peter Gülzow, DB2OS, President of AMSAT-DL, and Frank Sperber, DL6DBN, Vice President AMSAT-DL. As was the case in all previous such ventures, Prof. Dr. Karl Meinzer, DJ4ZC is project leader.

AO-7 Continues to Surprise

The unexpected return of AO-7 to the airwaves has attracted the attention of commercial science publications and the BBC.

Since its revival a few months ago, AO-7 continues to grip the imagination of the amateur radio satellite community.

Contacts are reported daily on the Amsat-BB and more exciting things are being discovered as time goes on.

Mike N1JEZ and others from the original AO-7 control team back in the 80s have been experimenting to see if AO-7 can still be reliably commanded.

Surprisingly the old bird has responded positively to seven of the original commands and the testing is continuing. Mike will report soon on the final results of the command tests.
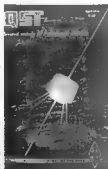
Overseas technical journals have also taken up the story of how this amateur built satellite has sprung back to life after more than 20 years circling silently in

the frigid cold of space.

UK electronics trade journal *Electronics Weekly* featured a cover story with front-page picture of AO-7. The BBC recently interviewed Pat Gowan G3IOR

AO-7 as it was conceptualised on the cover of ARRL's QST in April 1974

who was one of the original "movers and shakers" of AO-7 and who coincidentally, discovered its return to service. Audio tapes of the CW telemetry and voice contacts were played during the interview.

All in all a very positive publicity for

If you were wondering why Surrey was so quiet!

Surrey Satellite Technology, Ltd. recently signed contracts for the launch of eight satellites aboard three Russian Cosmos rockets between 2002 and 2004. The launches will begin the Surrey-coordinated Disaster Monitoring Constellation of small satellites. The constellation will feature satellites owned by Algeria, China, Nigeria, Thailand, Turkey, Vietnam and Britain.

In the past many of Surrey's commercial satellites have carried amateur radio packages as well. We can only hope We may see the current maximum 38k4 downlink speed pushed even higher.

GO-32 soon to be switched to BBS mode

The Israeli Technion Institute's satellite TECHSAT-1B (GO-32) is reported almost ready to be switched – experimentally – into amateur BBS mode.

TECHSAT-1B was launched on July 10, 1998 from the Baikonur Cosmodrome. It can be heard transmitting a burst of 9600 baud data every 30 seconds on 435.225 MHz. It's difficult to tell with just a burst of data every now and then but the signal seems to be quite strong.

Arrangements are being made by the controllers to hire an amateur operator to publicise the forthcoming opening of the BBS to the amateur radio community. No doubt news of the event will be appearing on the AMSAT-BB and other modes such as packet.

In the meantime watch out for breaking news on: http://www.iarc.org/techsat This is welcome and timely news for digital satellite fans as the choice is rather limited at the moment (see digital satellite survey below).

Digital Satellite Survey

The amateur radio satellite field is very wide. Not many folk would or could 'work all the oscars'. There are not enough hours in the day. I often have to rely on second-hand information when reporting happenings.

The one area I try to keep abreast of is that of the "high-speed digital satellites", with my station set up some years ago to cope with these beasts. At the time of writing the only high-speed digital birds still performing well are UO-22 and MO-46

These are both "UoSat" type satellites, UO-22 from the University of Surrey itself and MO-46 from Malaysia.

UO-22, which operates at 9600 baud, is still carrying lots of international packet radio mail as well as functioning perfectly in its store-and-forward mailbox mode. Launched in 1991, UO-22 has proved to be a very reliable resource for amateur radio satellite operators.

KO-23 went silent last year and KO-25 has been transmitting just a carrier for some months. In the meantime UO-22 has once again been carrying the bulk of the daily mail traffic. It continues to provide a strong downlink signal and the download efficiency hovers around 100% during most of each pass.

MO-46, previously known as ThungSat-1, continues to work well at 38k4 baud. Its signal is also very strong and the download efficiency runs at around 100% for most of each pass – and that represents a lot of downloaded data – sometimes over 2.5 Mbytes per pass. The wide angle and high-resolution cameras have been active again and some good pictures have been received in the past few weeks.

Although many of the images are interesting, MO-46 has never been able to match the superb resolution of UO-36 in its hey-day. MO-36 has not been responding to switch-on commands for some months now.

AO-10 returns to service after a long eclipse

AO-10 is again coming out of 'hibernation'. The now quite ancient high orbiter has been locked into mode-B operation for several years.

Uplink to AO-10 on 70cm and downlink on 2m, remembering that the transponder is inverting.

AO-10 has been drifting in attitude for years now and forecasts of its alat/alon (attitude) are not reliable. Sometimes the antennas will be in a favourable attitude, sometimes not. The solar cells are not always at optimum aspect to the Sun so battery charge is also uncertain.

When the attitude is favourable for both sun-angle and antenna squint, the old bird is capable of excellent performance with good DX and strong signals.

Operators should watch carefully for signs of FM-ing on received signals or on the beacon. Such FM ing indicates that power is low due to poor sun-angle. Stacey Mills W4SM maintains a web site for all matters regarding AO-10. Refer to

UoSat-Oscar-11's 2-metre Beacon silent

Just as this column was being prepared, Clive Wallis G3CWV reported that the 145.826 MHz beacon on UO-11 was not operating.

The "S"-band beacon is still working and many reports have been received in the last few days indicating that it is operating as normal and still serving as a valuable week-signal source for those testing receive equipment for AO-40. Clive reports that the Surrey team are working to get the 2m beacon back in operation.

UO-11 is one of our longest serving and most reliable satellites. The 2m beacon has been transmitting its telemetry to schools and colleges and amateurs around the world since 1984. A few days before the 2m beacon went silent an unexpected change occurred in the format of the telemetry. It began sending ASCII telemetry continuously. There may have been a system glitch, causing the diary cycle to default to ASCII telemetry.

The change occurred around 23rd July 2002. Ground control are aware of the problem, and will probably have to reload some of the software. UO-11 users should watch for Clive's regular updates on the AMSAT-BB.
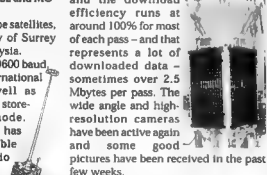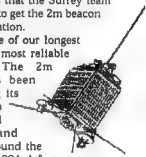
The AMSAT group in Australia.

The National Co-ordinator of AMSAT-VK is Graham Ratcliff VK5AGR. No formal application is necessary for membership and no membership fees apply. Graham maintains an email mailing list for breaking news and puts things as software releases. Members use the AMSAT-Australia HF net as a forum.

AMSAT-Australia HF net.

The net meets formally on the second Sunday evening of the month, in winter (end of March until the end of October) the net meets on 3.685 MHz at 1000utc with early check-ins at 0945utc. In summer (end of October until end of March) the net meets on 7.068 MHz at 0900utc with early check-ins at 0845utc. All communication regarding AMSAT-Australia matters can be addressed to:
AMSAT-VK,
GPO Box 2141,
Adelaide, SA, 5001.
Graham's email address is:
vk5agr@amsat.org

Beyond Our Shores

David A. Pilley VK2AYD
Davpil@midcoast.com.au

If you have interesting news from beyond our shores why not share it with us – email or snail mail is welcome.

A tribute

Through "A-R" I would like to extend congratulations to an Amateur that I've known 'in word' if not 'in person'. Pat Hawker, G3VA, has researched and written the column called "Technical Topics" in the RSGB Journal "RadCom" for the past 45 years. Pat's column has covered nearly every subject from the original crystal set to SMT (Surface Mount Technology). His presentation of various subjects used around the world alone has in itself been a great ongoing story. The column is so popular that the RSGB published two excellent books called "Technical Topics 1985-89" and

"Technical Topics 1990-94". A copy is a must in every Amateurs reference library. Check with the VK2 Library. They are great value and make fascinating reading.

WRTC 2002

Very special congratulations to Jeff Steinman, N5TJ and Don Street, K1TO, who took home the World Radio Team Championship gold for the 3rd consecutive time

Jeff Steinman, left, Dan Street seated and referee Dave Lawley (G4BUO) in Timo Keskinen's (OH2HXP) borrowed shack some 70 k from Helsinki (photo Ernst Ekstroem , OH2LXB)

This 'Olympic' Amateur Radio event took place in Finland and was organised jointly by the Finnish Contest Club and the Finnish Amateur Radio League 52 teams from around the world gathered in Finland to compete in this great event and I can assure you it is tough when you are competing with the best of the best. Six years ago Martin Luther VK5GN and I represented Australia at San Francisco and we still bear the scars!

Using the call OJ3A Jeff and Dan racked up 2,782 QSO's giving them 1,629,798 points. Second place was RA3AUU with RV1AW operating as OJ8E with 1,619,226 points followed by DL2CC with DL6FBL operating as OJ6V with 1,608,673 Just 21,125 points separating the gold from bronze. Very close scoring and proof that language is no barrier!

All 52 teams had similar equipment to keep the playing field level and for the first time an on-line real-time scoreboard was provided. Antenna's were at circa 12 metres high and power was restricted to 100watts. Finnish Amateurs opened their stations and homes to the contestants for this great event.

Again – well done Jeff and Dan.

UK Foundation Licence

Radio Society of Great Britain President Bob Whelan, G3PJT, says the new Foundation class entry-level amateur ticket in the UK has proven to be a grand success, especially among youth.

Since the Foundation license went into effect January 1, it's attracted some 700 brand-new amateurs in the UK, 250 of them under the age of 21.

Whelan said "The balance of the 2500 Foundation licensees are those who upgraded their VHF-only privileges to gain the limited HF access the Foundation ticket offers." He went on to say,

"The interesting thing is that we're getting a very good response from schools, from Scouts, from Guides, from all those young people's organizations

and it looks to us like, for the first time, it's going to change around the fortunes of Amateur Radio in the UK "

The Foundation license has made the HF bands much more accessible to newcomers as well as to Class B VHF-only "no code" licensees.

To comply with the current International Radio Regulations, applicants demonstrate Morse proficiency by completing what's called a "Morse assessment." Class B licensees need only complete the Morse assessment to qualify for the Foundation license. Applicants work with a Morse tutor for the assessment, and there is no Morse speed requirement. The RSGB says the entire Morse assessment takes about 30 minutes. Applicants also must pass a 20-question written examination that covers a wide range of radio and electronics basics.

Holders of the Foundation ticket gain access to most amateur bands from 136 kHz through 440 MHz—with the notable exception of 10 meters—using CW, SSB, or digital modes. Foundation licensees may operate with 10 W output using only commercially manufactured equipment or "properly designed" commercial kits. Licensees are issued call signs from the M3AAA-M3ZZZ series.

There are approximately 60,000 amateurs in the UK.

Gibraltar recently announced that it was instituting a Foundation license based on the UK example Gibraltar Foundation licensees are expected to be 'air-borne' in July this year and will be issued ZB3 call sign prefixes

500 kc/s on disc

For those of you with Maritime backgrounds you may be interested to know the last moments before this famous distress frequency was closed in 1997 have been recorded for prosperity on video The video includes extracts from the "Titanic" and final messages from many coastal stations. Details of this 'memory' can be found at www.discoveryfilms.co.uk

U.S. President thanks radio amateurs

President George W. Bush has sent his greetings to all Amateur Radio operators, acknowledging their role in emergency communications (especially following the September 11 tragedy) and in generating international goodwill.

The White House letter came as hams in the US marked Amateur Radio Week June 17-23 and got ready to participate in ARRL Field Day—an emergency preparedness exercise. "I salute amateur radio operators for your work on behalf of public safety officials," the President said. "I also commend your interest in communicating with persons in other parts of the world and learning about other cultures and customs. Your involvement builds understanding and goodwill around the globe."

(AARL N/L)

The 5MHz experiment is underway

With all the talk that Amateurs in the USA may be allocated a new band in the 5MHz region, it is interesting to note that Amateurs in the UK are already into it!

The RSGB announced that the MOD and RA had granted permission for the allocation of five spot frequencies in the 5250 to 5450kHz band. The frequencies will be in the form of 3-kHz bandwidth channels by way of a Notice of Variation to the amateur radio licence.

As this is a controlled experiment, applicants will be required to report findings and results to the RSGB, which is tasked with providing both the RA and the MOD with reports on findings as the experiment progresses. It was expected that the first NOVs would be issued by the RA on or around the 1st of August.

The purpose of the experiment is to carry out propagation and antenna investigations aimed at improving the understanding of NVIS propagation. The frequencies assigned are 5260, 5280, 5290, 5400 and 5405kHz the experiment is anticipated to run for a period not exceeding four years. New rigs – new antennas – sounds really interesting!

(It would be interesting for Amateurs in Australia to have similar frequencies allocated to allow studies world wide – on the understanding it is for research and not just across-town chatter.)

PY has new amateur band

According to Brazilian amateur Marcus, PY3CRX / PY2PLL, the Brazilian licensing authority ANATEL has agreed that the 135.7 to 137.8kHz band can be allocated to radio amateurs on a secondary basis. No date was mentioned for the new band's introduction. Marcus comments that the band is, or will be, also available in Paraguay and Uruguay.

(RSGB N/L)

New amateur radio antennas to be installed on ISS

The last two Amateur Radio antennas are scheduled to be installed this month on the International Space Station's Zvezda Service Module—the crew's living quarters. The specially designed flexible-tape antennas will support Amateur Radio on the International Space Station (ARISS) VHF and UHF operation and are similar to an antenna installed last January 14 by the Expedition 4 crew.

ARISS International Group Chairman Frank Bauer, KA3HDO, said ARISS was working with its Russian partners on EVA procedures. "Once these antennas are installed and some September tests are completed in Russia, additional ISS ham radio equipment will be installed in the Service Module," he said

ARISS initial ham station gear—a single-band Ericsson 5-W hand-held transceiver for 2 meters—is installed in the Zarya Functional Cargo Block (FGB) using an antenna initially installed to aid docking operations and EVAs. These new VHF-UHF antennas and a flexible-tape HF antenna also installed January 25 are designed for and dedicated to ARISS operations. There is no HF gear aboard the ISS at this point.

Installation of the new antenna on Zvezda makes possible two separate ham stations aboard Space Station Alpha. Bauer said the additional gear due to be installed in the Service Module is one of the 5-W 70-cm transceivers already aboard the ISS. The ARISS 2-meter transceiver now in use from the FGB will remain operational. "This will provide multiband operation," he said. Plans down the road call for installing HF gear at the ARISS station as well as higher power VHF and UHF equipment.

(ARRL N/L 3/8)

Intruder Watch

Report for July 2002

The INDON CRIMS on 14MHz seem to be moving up the band as their frequencies are being more occupied by Radio Amateurs and Chinese Noise Makers...21MHz is OK below 21100, but there are more and more Indon Crims on the upper end of the band....28MHz is full of Chinese Intruders as usual which makes working UK and EU QRP stations almost impossible

Please keep up the 'Occupancy Rate' to deter the Intruders. The 360 degrees bearings are from Albany in VK6, and others from Humpty Doo. Karl, VK6XW, is going up north VK6 to try to 'warm up' a bit as it has been cold down the bottom end of VK-land. Enjoy your stay Karl

Cheers and all the best from Henry in Humpty Doo. vk8ha@octa4 net.au

FREQ	DATE	TIME	EMM	DEGS	RST	RPRTS	DETAILS
07000	dly	1100	USB	—	S9	dly	Indon Crims
07015	dly	1115	USB	—	S8	—	Indon Crims
07083	2307	1222	F1	—	S8	—	UI Multichannel
10105	dly	1130	USB	—	S9	dly	Indon Crims. all over the 10 Meg band
14000	1507	0825	USB	360	S9	dly	Asian male-female msg-several in grps
14005	1207	0025	USB	360	S9	dly	Asian four males one female, chat and sing
14006	0807	0910	USB	360	S9	dly	Asian .twop groups. separate operations not in skip
14025	1307	0930	USB	360	S9	dly	Asian two chatting
14025	0407	1250	USB	360	S9	dly	YB0.messages and instructions. One is Boss
14040	2507	1212	A3E	—	S5	—	2 ui b/cast stations
14044	1307	0130	USB	360	S9	dly	Asians. Usual grps call contact til 0140. 2nd grp 0145-0200
14044	0407	0135	USB	360	S9	dly	Asian, three males chat Korean? Diesel noise on one station
14044	0507	0015	USB	360	S9	dly	Asians chatting. Can hear boat motor on one of them
14045	0307	0400	USB	330	S9	—	Asian. giving short messages..Not YB0..
14052	0907	0145	USB	360	S9	dly	Asians. two males chatting
14060	0907	0400	USB	360	S9	dly	YB0 .also 14080-14085 USB 090-100-110-115
14065	2607	2335	A3E	330	S1	—	B/cast station in Indonesian +HET + VOA
14086	1907	1200				—	Chinese
14080	0807	0810	USB	360	S9	dly	YB0-bussy from 080-115 + 120
14085	1707	0845	USB	360	S9	dly	YB0-male-female chat whistlers +80-90-100-105
14090	2007	1100	USB	360	S9	dly	Indon Crims on USB and LSB also 095
14100	1407	1100	USB	360	S9	dly	Masses of Indons. on USB/LSB screaming - yelling - singing
14100	2307	2320	USB	330	S9	dly	Indon Crims in Timor
14100	0807	0800	BUZZ	330	S9	—	R7B? jamming the Indon Crims !!
14100	0507	2300	"" ""	330	S9	—	same as above !!
14100	2607	2335	A3E	330	S9	—	B/cast station in Indonesian
14102	1807	0040	USB	360	S9	dly	Indon Messages in Indonesian
14115							Asians. two male using VOX msg s all the time .hear boat eng
							Daily heavy harmful interference to the VK6 travellers NET.
							They do not respond to request to vacate the frequency
14116	0807	0305	USB	360	S9	often	Asian Messages not YB0 nor Chinese. comes up often
14116	2207	0203	USB	—	S8	—	Asian interfering with TRAV.NET.op complained
14116	2707	2350	PKT	330	S3	—	Chinese Packet
14120	0207	0300	USB	360	S9	dly	YB0. Splatter onto Trav.Net.
14120	1307	0600	USB	360	S9	dly	YB0. Sing-chat-2 male, 1female at 0920 other grp on LSB
14120	1907	0845	LSB	360	S9	dly	YB0 males and females. chat singing
14125	0907	1155	R7	290	S5	—	UI Multi. Jamming Indon Crims
14130	0107	0525	USB	360	S9	dly	YB0. Big Group
14130	1507	0635	USB	360	S9	dly	YB0. males and females chat singing
14186	0907	1150	R7	280	S9	—	YB0.-male-female-chat-as if they own the place
14250	2707	2350	A3E	—	S1	dly	UI Multi
14286	2707	2345	PKT	330	S9	—	Pyong Yang B/cast
14310	0907	1130	CW	340?	S5	—	Chin. packet(Chouschriber)330dges strong.360 dges low lev stn
14311	2707	2340	PKT	330	S5	—	2 pips/sec.+ short pkt waterfall burst
21025	2107	1200	PIC	360	S9	—	Daily Pips + Chinese pkt
21080	2107	1135	A3E	360?	S2	—	Sounds like PICOLO...short break at 1225
21080	3007	1204	A3E	—	S5	—	Ui B/cast stn. PY??
21210	2107	1137	A3E	330	S2	—	PY in Chinese + 2nd stn also in Chinese NEWS
21250	2107	1140	A3E	330	S2	—	News in Eng. re Iran./11389 female in English
28022	2707	1152	CW	330	S2	—	PY ?...+ some indon CB crims
							BEACON '3OBS'

Editor's note: I will publish these lists every few months so you can see what is happening and that it does not go away

We all need to be vigilant as and as noted above if a lot of amateur activity is maintained the interferers move elsewhere

Spotlight on SWLing

by Robin L. Harwood VK7RH

This month is the first anniversary of the terrorist outrages in the US at New York's, World Trade Centre (WTC), together with the Pentagon and at a third remote Pennsylvanian location. Over 2,000 people were killed on the 11th of September, an event that has become rather traumatic and burned forever in the psyche of the residents of America's largest city as well as the entire nation. Expect the airwaves to be full comment about the event.

I do expect that the memorial events will be extensively covered along with retrospective analysis of the 9-11 saga 12 months on.

I do expect that the ceremonies on September 11th will be carried live via the VOA. Frequencies to be monitored are 6100 and 9645 kHz. These will commence as early as 1130 UTC and continue for 100 minutes, although these ceremonies will continue throughout the day.

Barely a month after the attack, America retaliated with a massive show of air power followed by a coordinated ground assault by specialist forces with the bulk of the fighting being done by rebel Afghani forces, primarily based in the north of the country.

As we now know, the hated Taliban regime was quickly overthrown and eventually replaced with an all-party transitional administration headed by Mr. Karzai in Kabul. American and other allied Special Forces went after the Al-Qaeda and Taliban bands scattered across the mountainous and harsh terrain.

The media scene within Afghanistan has stabilised as the Kabul regime has acquired additional broadcasting capability and can be heard over shortwave via the Abu Dhabi transmitters, which are managed by Merlin.

The unofficial Voice of Afghanistan, which was operating from London, has given conflicting information about its future. It's wealthy Afghan backer said he was suspending programming for three months, after touring the war ravaged nation but nearly a week later, information presumably from Merlin, stated it had permanently ceased transmitting.

Also programming from Radio Free Afghanistan and the VOA were combined into a 24-hour stream instead of having separate formats. Again the Abu Dhabi senders are used as well as FM relays in the major cities, particularly Kabul and Kandahar.

Also the BFBS that was operating for British peacekeepers ceased when they were replaced by Turkish troops. Naturally a 24-hour Turkish program is operating at Bagram and Kabul along with a German language program for troops from that nation. They also have programming in Dari and Pashtoo. A small, localised AFTRTS operation is at Bagram and is not heard away from the base.

As you are no doubt aware, America has made it clear that they want to get rid of the Iraqi regime of Saddam Hussein at all costs. Again shortwave will be extensively used both overtly and covertly. However neighboring nations are extremely nervous about this intention and have distanced themselves in various degrees like many in the wider international community.

Iraq is not heard well on shortwave and its senders are rather unstable. They are reported to be around 11747 kHz but drift about or are covered by other international stations.

Incidentally I am hearing Iraq's neighbour and foe, Iran. When first heard, it sounded very similar to China Radio International. It is quite easily heard on 9570 in English at 2200 till signing off at 2225. The Voice of the Islamic Republic of Iran (VOIRI) seems to have made quite an effort to produce interesting topics, with a number of telephone interviews and reports from outside of Iran. They are not complimentary of American foreign policy, as you would expect.

The Australian Time and Standard Frequency station, VNG, continued operations beyond June 30th following numerous representations. However they are not going to continue beyond December 31st 2002.

This six months grace period is to allow users to find alternative sources of time and frequency standardisation. The possibility of another operator taking over the service is extremely remote, as the existing service was unable to maintain funding.

June 30th also saw the final closure of the Australian HF Maritime stations in Sydney, Melbourne, Brisbane, Townsville and Perth after 84 years of continuous service.

I heard the final broadcast on 6215 and 8176 kHz at 2355 from VIM. Another operator has since taken over the service of both the voice and radiofax bulletins of meteorological information for mariners from two locations at Charleville (QLD and Wiluna (WA). Frequencies for the voice bulletins are 6504 or 6230 and 8176 or 8297 kHz. Penta Commstat also run skeds with Met bulletins and also communicates with small craft to radio in their positions and intentions. The location to me is unclear as they used to be at Gosford.

Papua-Niugini had a rather drawn out election a few weeks back and it took a long while to announce the returns. Many provincial SW stations, which had become inactive, came back on-air for the election and are still operational.

The majority of them can be found between 3.2 and 3.4 MHz. The powerhouse station in Moresby is easily heard on 4890 kHz. Also the rebel Bougainville station supporting Francis Ono also re-appeared on 3850 kHz and audible from 0955 till around 1100. I believe they are running only 80 watts on AM. QSL reports go to Sam Voron, VK2BVS QTHR.

Don't forget that news can be emailed to me at vk7rh@wia.org.au. All the best with listening- 73 de VK7RH

**The Voice of
Australian Amateurs**

The Close of an Era

John Bennet
Lieutenant-Colonel (retired)
VK3ZA/VK3SIG

Vale Alan Vagg VK3AGV

Alan George Vagg, VK3AGV, became a Silent Key on Wednesday, July 24, 2002, aged 97. This was a man who started with spark generator transmission, went through valve radio, helped run and set up radio networks for New Guinea where communication was either 'in' the air, 'on' the air or nearly impossible.
He was also the last person to have 'spoken' to Amelia Earhardt and was the commander of clandestine radio operators of the New Guinea Volunteer Rifles, an organisation that worked behind and indeed in enemy lines.

With his passing, Australia has lost an extraordinary contributor to radio communication; a brave, fearless and modest former Army officer; and a perfect gentleman. I have lost a dear friend, compatriot and mentor whose help and friendship during 52 year's association is difficult to express in words.

Each and every person who had the good fortune to know or come in contact with Alan was the richer for having done so.

Born to Roberta and George Vagg in Bairnsdale, Victoria, in March 1905, Alan was the second of six children; three boys and three girls. His father managed the local butter factory and later moved to Melbourne to the butter company's head office.

After attending the Middle Park School, Alan joined the Royal Australian Navy in 1919 as a Cadet Telegraphist, at the age of 14 years and six months. Technically, Australia was still at war although hostilities had ceased in November 1918.

Alan trained at the Communications School, HMAS Cerberus, on Westernport Bay in Victoria. Following this, he was variously Watch Keeping Telegraphist at Cerberus and the Garden Island Naval Base in Sydney Harbour (the base was truly an island at that time). He also served at Naval Staff Office Port Melbourne (later HMAS Lonsdale) and aboard the survey ship Geranium.

Alan grew with marine radio as it grew. He operated and worked with the earliest of spark transmitters through to the latest types before the introduction of valved equipment which he first saw at the age of 16, at Cerberus

He often said that telegraphy was "… in his blood". Two of his uncles were both surveyors and telegraphists in the team which constructed the Overland Telegraph from Darwin to Adelaide in the 1870 1872 An aunt was the last female telegraphist of the Post Office

Telegraph Service, retiring in the 1920's.

In the early 1920's the Navy was winding back numbers and scrapping ships following the Great War. The future for Alan was not bright so he applied to leave the Navy, having decided to become a merchant marine ship Radio Officer. Toward that end, he completed his First Class Radio Operator's Certificate and qualified as an Electrician.

After leaving the Navy, Alan did a lot of electrical work in Australia before moving to New Guinea to join the Bulolo Gold Dredging Company where, as an electrician, he installed a new 650 kVA hydro-electric power station using a Westinghouse Pelton Wheel. Following that, he joined Amalgamated Wireless Australasia Limited (AWA) in charge of their Coastal Radio Station Network at Bulolo.

The Bulolo station, VLT, functioned as a combined Coast and Aeronautical radio service. The aviation aspect handled mainly aircraft flying-in machinery and personnel to the Huon Gulf goldfields. The Coast station handled shipping movements, weather information, public telegrams and freight information.

Although phone (speech) was used on occasions on the radio, CW (Morse code) was the preferred means of communication.

During his time at VLT, Alan had many contacts with aviatrix Amelia Earhardt during her round-the-World flight. He was also the last person to have contact with her after she left New Guinea to overfly the Pacific Ocean. Using CW she told Alan she was descending from 7,500 feet to get below low cloud. That as her last message Alan called and listened for her: to no avail. No

confirmed trace of her has ever been found and her disappearance remains shrouded in mystery.

The original equipment at Bulolo was Ham-built and Alan re-built it all, including the 5kW transmitter. He particularly used the ARRL Handbook in his endeavours to improve the antenna systems to achieve better range; bearing in mind that station VLT was about 80km inland, in a valley surrounded by mountains around 3,000 metres high.

Using the Amateur Radio callsign VK9DM, Alan established contact with Ham station VK3ZZ in Melbourne, a neighbour of his brother Desmond, a RAN engineer. In this way Alan was able to maintain contact with his family in Australia.

He often reminisced about these contacts. He would work no station other than VK3ZZ; much to the consternation of other Hams around the World who were eager to have a rare contact with New Guinea. The reason Alan only worked VK3ZZ was because he was 'fired-up' the 5,000 watt VLT transmitter to talk with his brother and certainly didn't want to work anyone else with that power and have to

> **Alan only ever worked VK3ZZ because he 'fired-up' the 5,000 watt VLT transmitter to do it and didn't want to have to explain the exact nature of his 'Ham' equipment. …Ham stations were then officially limited to 100 watts!**

explain the nature of his 'Ham' equipment. Under Australian administration at that time, Ham stations were limited to a power of 100 watts!

In 1939, Alan joined the New Guinea Volunteer Rifles, an Army Citizen Force militia unit, and formed their Signals Section. Shortly after the Japanese entered the war in 1941, the Vagg's house at Bulolo was bombed and destroyed. VLT was also damaged. Alan, his wife and their son were on leave in Australia at the time. Alan returned to New Guinea to the NGVR which had been mobilised

and to VLT. His wife, who had been in New Guinea for ten years, was not allowed to return. Lieutenant Alan Vagg and his signalmen trained day and night, meanwhile Alan kept VLT operational as well

As the Japanese advanced into New Guinea and the bombing increased, VLT was destroyed and Alan and his signallers took to the jungle. They had virtually no Army radio equipment and used whatever they could get their hands on. They salvaged what they could from VLT and got a few AWA 3BA and 3BZ tele-radios from plantations.

Alan had signals operators all over the Territory – a few men scattered here and there – sending back information on Japanese troop and air movements which was relayed to Australian Army headquarters in Port Moresby. Alan spent over two years living in native villages and in the jungle, moving from place to place, often hurriedly at night, to avoid capture. On several occasions the Japanese were so close to his hiding place that Alan could see them or hear them talking.

His unit still had little equipment. In one attempt to get more radios to Alan, the Army air-dropped two complete radio stations to him. One parachute load slammed into a cliff face and the radio disintegrated into small fragments, falling into the valley below.

Alan often worked and sent radio messages from observation positions perilously close to the enemy. Once, lying in long grass while observing a ship unloading Japanese troops, equipment and a cargo of bombs and other stores, he saw an oil tanker sneaking into Labu Harbour at last light He sent a signal to Port Moresby and at first light next morning "...in came the bombers and up we went", he said

Captain Vagg, as he now was, moved from the jungle and villages back to Port Moresby to become the Chief Signals Officer at Headquarters New Guinea Force, for which he established the Army's main radio station. During this period he took a Signals Detachment from Lae in New Guinea to Tulagi, the then capital of the Solomon Islands – the first Australians there – as the American Marines were forcing the Japanese out of Guadalcanal. The station Alan established linked Tulagi and Port Moresby

Alan's health was badly affected by his time in the jungles of New Guinea and

its privations . He was to suffer great pain for the rest of his life from tropical ulcers which could never be healed. Such was his strength of character and cheerful disposition that very few people ever knew of his suffering.

After the War, Alan returned to AWA and to New Guinea together with his family. First to Port Moresby, then Lae and finally to establish and operate a new Coast Station, VIJ, at Samarai near the eastern tip of the island.

In 1950 Alan joined the staff at AWA's Melbourne office in the Engineering Department under the late Bert Pringle. Also in that group were the late Alec Stewart, VK3BMS, and myself, John Bennett. From then on we were great mates. Alan, Alec and I worked together on many radio and communication projects of national significance, some of which were highly classified. We worked hard and often played hard – as mates do.

About 25 years ago, 19 ex-AWA engineering staff from all over Australia got together to form a weekly radio network to stay in touch. All of us were First Class Commercial Radio Operators who also held Amateur Radio Station (Ham) licences.

By 2002, time had taken its toll. Seventeen had become Silent Keys. Alan

and I were the last two of the original group. Some years ago our AWA network was joined by Ron Collett, VK2LU, the former Chief Engineer of broadcasting station 2UW, with whom I once worked in Sydney

When Alan went into a Hostel where he could not have his Ham gear, he generously gave it to Jim Fes, former Marine Manager of AWA in Melbourne. Jim, a long time friend of Alan and myself, then took-out the Ham callsign VK3CAN and joined our Wednesday morning sked on 40 metres. Jim Fes has been a tower of strength to Alan both before and since he went into the Hostel and is a most welcome member of our little group: So now we are three!

At his retirement function at AWA, Alan said: "...AWA is the most wonderful organisation outside the Military. The atmosphere in the Company had to be experienced to be understood. We were a group of highly specialised engineers, often working on our own, left to get on with the job. Engineering people were great people Meeting such a lot of nice blokes was outstanding".

The greatest and most outstanding bloke of them all was Alan George Vagg.

Farewell true friend.

AR   SK

Alan Vagg commanded the signals group of the New Guinea Volunteer Rifles, a militia unit well experienced in New Guinea and with its people and terrain. The radio group played an important part in the defeat of the Japanese on Australia's doorstep in the dark days of 1942.-43. Living individually in the jungle, often within earshot of the enemy, they monitored movements of the invading forces, and along with the better known Coast Watchers and other observers relayed information to Port Moresby. This up-to-the-minute intelligence enabled

allied forces to take either early defensive or extremely effective offensive action. In a terrain with more up and down than flat and where much movement of material and troops was by barge and aircraft, knowing the exact position the enemy was critical. The intelligence allowed the best use of allied aircraft , in the early days a limited resource. In particular the ground-hugging Beaufort Bombers, known as Whispering Death because of their unheard approaches up the valleys, relied heavily on good intelligence.

How's DX?

Ross Christie VK3WAC
19 Browns Road, Montrose 3765, Vic.
Email Vk3wac@aol.com

There has been rumours for a few years now that the local electricity and communications companies wish to roll out a new data communications service in the main population centres of Australia similar to the PLT system currently under evaluation in the UK and elsewhere.

This service utilises frequencies in the HF range of 2 - 30MHz. The system uses the power supply lines and is therefore unshielded and gets everywhere.

In the UK there have been extensive trials of the service with the result that broadband QRM is being experienced not only by amateur operators but also Ministry of Defence installations, Air Traffic Control Networks (in Europe tool), radio astronomers and numerous other legitimate services and users of the HF spectrum.

Similar tests have recently been completed in Japan. However, news just to hand reveals that the Japanese authorities have refused to allow permission for the system to be put into service citing unreasonable levels of broadband noise (QRM) which would effect HF band users. Hopefully our own government will take note of the reasons behind the Japanese refusal when it considers a similar application by Australian companies to install similar equipment.

In a recent report from the RSGB it appears that Tim Kirby, G4VXE, who lives in Windsor is one of the very first UK operators to receive a special 'Notice of Variation' to his licence that allows him to operate on five spot frequencies, each 3kHz wide, at 5260, 5280, 5290, 5400 and 5405kHz.

This will be an ongoing experiment lasting up to 5 years and all results and findings are to be reported to the RSGB. The RSGB is then required to submit the said results to the Radio Communications authorities and also the Ministry of Defence. The NoVs were to commence on the 5th of August and according to the RSGB "Within a few minutes Tim was on the air using a 100 watt transceiver and an end-fed wire tuned for the 5MHz band. Tim reports working G0NBD in Wallasey, G3RXH in North Yorkshire, MW0AQD in South Wales, G0HNW in Huddersfield, G3JFS in Plymouth and G3YXM in Birmingham on the first day of operation.

His first impression of 5MHz

propagation is that UK signals seem to be consistent throughout the day and evening. "Even at around 2045 local time, I was getting excellent reports from the Midlands - notably better than on 40 metres", he said.

There seem to be long periods of fading and at Tim's location a lot of local noise, but he added: "It's really exciting to have the chance to unravel propagation on a 'new' band, first-hand."

Amateur operators in the US have also been conducting propagation experiments around the 5MHz band for some time now and Charles Harpole, K4VUD, who has permission from the FCC to operate on their slice of 5MHz spectrum would like very much to try for trans-Atlantic contacts on the band. He has encouraged authorised UK stations to contact him to set up a 'sked'.

For those interested in having a listen for the USA or the UK on 5MHz you can contact Charles at k4vud@hotmail.com and find out what his schedule is going to be, and for the UK the RSGB will have a list of authorised stations at ar.dept@rsgb.org.uk and will no doubt put you in contact with them.

I wonder if there is any approaches being made to the ACA here in Australia for a similar arrangement for VK amateurs? Probing the propagation across the Pacific to the USA would be an interesting experiment.

The DX

3D2, ROTUMA. Stephane, J28VS will be on the air from Rotuma (OC-060) as 3D2VS/p between the 30th of Aug until the 5th of Sept. He hopes to be able to operate on all the HF bands using SSB. Later in the month, from the 6th until the 11th, he plans to be active from Suva (OC-016) again on all HF bands. QSL via F6KHM either direct or through the bureau. [TNX J28VS and 425 DX News]

5B4, CYPRUS. Alan, G3PMR is planning on holidaying in Cyprus with his XYL. They will be staying at the QTH

of Mike, 5B4AGX. Alan is hoping to get on the air as often as possible using the call 5B/G3PMR between the 12th and 18th of September using CW and SSB QSL via G3PMR. [TNX G3PMR and The Daily DX]

7Q, MALAWI. Ely, IN3VZE, is heading to Malawi again and is expected to be active using the call 7Q7CE again from September 22nd through October 8th. QSL via IN3VZE via the Bureau or direct to Ely Camin, C.so 3 Novembre 136/2, 38100 Trento, ITALY. [TNX IN3VZE and OPDX]

C5, THE GAMBIA. John, G4IRN, has plans to be active from here as C5/G4IRN from the 6th until the 13th of September. Operation will mainly take place on CW on the 80 - 10 metre bands using 100 watt and simple wire antennas. QSL to G4IRN: 31 Greenwood Road, Thames Ditton, Surrey, KT7 0DU, England, UK. [TNX G4IRN and OPDX]

CE9, CHILE / SOUTH SHETLAND. Ricardo, CE9R will be active on 15 and 10 metres SSB from the Chilean Antarctic Base "Presidente Eduardo Frei Montalva" (WABA CE-03) on King George Island (AN-010). He will be there until late September. QSL via CE3HDI. [TNX CE3HDI and 425 DX News]

DXpeditions

9H, MALTA. A group of 14 Dutch amateurs will be heading to Malta for a bit of holiday/DXpedition recreation.

This will make it their 15th trip to Malta and to commemorate the event they have applied for and received the special callsign 9H9PA (possibly the first 9H9 call ever issued). The operation will take place from the 16th of September until the 6th of October

They are planning activity on all bands from 2 to 40 metres, including the WARC bands. Modes will be CW, SSB , and digital. They may also attempt some operation on 80 and 160m depending on what antennas they can erect on the available supports.

The QTH on MALTA will be in the city

of Qawra (Grid Loc. JM75FV and IOTA EU-023) The following operators (with their own 9H3 callsigns) will participate: Sietse PA1XA as 9H3AAG, Peter PA7PTR as 9H3TE, Ton PA1SL as 9H3AB, Louis PA0LRK as 9H3LRK, Rob PE9PE as 9H3PE, Frits PA0BEA as 9H3IE, Andre PA3HGP as 9H3R, Hans PA3FYG as 9H3AAL, Jaap PE1NGF as 9H3X, Bill PA3BIZ as 9H3ON, Ger PA0OI as 9H3OI, Sjirk PE1OFJ as 9H3YM Barry PA3FEO as 9H3QF and Ruben PD3RUB as 9H3ZR.

All QSLs for the 9H3 callsigns will be via the respective PA home callsign. The QSL Manager for 9H9PA will be

PA7DX, Anton Kerkhof,
Blaublomke 2. 8401 MG GORREDIJK,
The Netherlands

The group will be attempting to maintain an on-line log as well as posting some photographs on their web page at http://www.vrza.nl

A52, BHUTAN. After receiving some very appreciated help John, KP2A and his XYL have had their tickets, visas and amateur licence organised and are now ready to travel to Bhutan for a holiday.

John plans to get on air from the "Ham Centre" as A52DX from the 11th until the 18th of Sept. He hopes to get some time in on all HF bands including 6 metres using SSB and CW. John also says "if all goes well and with a little bit of luck, there will be online logs available at http://kp2a.vi/ during and after the operation." QSL the A52DX operation via W3HNK. [TNX KP2A and The Daily DX]

OJ0, MARKET REEF (EU-053). The "QLF DX TEAM" will be active from here from the 31st of Aug until the 7th of Sept.

They have applied for the callsign OJ0LA from the Finnish PTT. The operators will be LA5UKA, LA6YEA, LA8SDA, LA9VDA and OJ0/LB1NE. OH0RJ has also been invited to join them if he can make it Modes will mainly be CW and SSB, however some RTTY activity may take place if there is enough demand for it. Activity will be on all bands 160-10 metres with extra efforts taken on 10, 12, 15, 80 and 160 QSL OJ0LA to LA9VDA.

Note, if you wish to QSL. direct please send a SASE + 1 IRC or 2 USD. QSL for OJ0/LB1NE is via his CBA, QSL OJ0RJ via OH0RJ. For more info visit http://home.c2i.net/la6yea/ [TNX LA9VDA, VK6VZ and OPDX]

Round up

Industry Canada has granted permission for the use of the national special event callsigns to celebrate the **125th anniversary of Japanese Immigration to Canada.** The permission is valid from the 1st of Sept until the 31st of Oct 2002.

The special event prefixes are as follows: CK1 for VE1, CJ1 for VA1, CK2 for VE2, CJ2 for VA2, CK3 for VE3, CJ3 for VA3, CK4 for VE4, CJ4 for VA4, CK5 for VE5, CJ5 for VA5, CK6 for VE6, CJ6 for VA6, CK7 for VE7, CJ7 for VA7, CK8 for VE8, CK9 for VE9, CY1 for VO1, CY2 for VO2. CZ0 for VY0, CZ1 for VY1 and CZ2 for VY2. [TNX OPDX]

C6, BAHAMAS. Al, K3TKJ will be operating as C6ALW from Andros Island (NA-001) in the Bahamas from the 14th of Aug until the 18th of Sept. He will be operating on all bands 40 – 6 metres with an emphasis on 6 m. Modes will be CW and SSB on but only SSB on the HF bands. Dave, N3DB hopes to join Al over the period of the 26th of Aug until the 5th of Sept. [TNX K3TKJ and The Daily DX]

9A, CROATIA. It has been 10 years since the 9A prefix was allocated to Croatian amateurs and the Croatian Amateur Radio Association (http://www.hamradio.hr) is sponsoring a special award for contacts made on HF, VHF (including 6m) between the 5th of July and the 31st of December 2002. The award is also available to SWL's.

Further information is available by e-mail from Denis Vincek, 9A3Z at 9a3z@hamradio.hr [TNX 9A3Z and 425 DX News]

WFC CONTEST. The QRZ Amateur Radio Group of Sussex is organising the first annual World Friendship Challenge for licensed amateurs and SWLs. It is to be held from 11 UTC on 14 September to 11 UTC on the 15th. There are trophies for section winners, certificates for 2nd and 3rd place in each section. Commemorative QSL Cards and certificates will be available.

For further information please e-mail qrz@jandc.demon.co.uk [TNX M0CHW and 425 DX News]

YA, AFGHANISTAN. Peter, ON6TT, says that the station YA5T has now made 40,462 contacts since November 2001 and AP2ARS has made roughly 30,000 QSOs since early 2001.

After a break over the summer months Peter will be back in Pakistan for 2 or 3 weeks and says, "we still have the

antennas up, but need to bring the radios back into the country."

The beginning of September until at least mid October will see the UN team travelling around Afghanistan installing satellite communications for the UN World Food Program. They will not be staying in any one place for more than two weeks so there will be some YA5T activity but only with limited power and basic antennas

After the completion of this installation work the group expect to leave central Asia but they expect to work approximately another 10,000 QSO's form Afghanistan and probably another 2,000 QSO's form Pakistan. [TNX ON6TT and The Daily DX]

JT, MONGOLIA. Ken Claerbout, K4ZW has begun putting the final touches to his planned trip to Mongolia If all goes well Ken and Karl Renz. K4YT will be in Ulaanbaator from the 9th until the 15th of Sept. The pair plan to be on air as much as possible until the 15th of Sept. Ken will use the call JT1/K4ZW. Karl's call has not been issued as yet. QSL JT1/K4ZW via homecall. [TNX K4ZW and The Daily DX]

VK0, MACQUARIE ISLAND. Paul, A35RK, reports that VK0MQI has been checking into the ANZA net on 14183kHz the past few weekends shortly after 0500 UTC. Paul doesn't know if this will continue to be a regular appearance but that "it might be worth a listen if you need VK0M." [TNX A35RK and The Daily DX]

A bit of late news just to hand. Apparently the DXCC desk are now accepting confirmations for **RTTY QSOs** with Ed, P5/4L4FN dating back until November 2001. So those of you who have managed to work Ed on RTTY can breathe a sigh of relief. [TNX N4AA and DX Magazine]
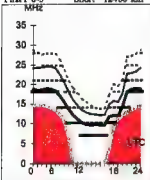
Sources

The details in this month's edition of DX Notes have been collected from a number of individuals and organisations, all of which deserve our thanks.
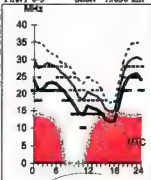
Thanks go to N4AA, A35RK, K4ZW, ON6TT, M0CHW, 9A3Z K3TKJ, LA9VDA, VK6VZ, KP2A, CE3HD, PA7DX, G4IRN, G3PMR, IN3VZE, J28VS, DX Magazine, OPDX, The Daily DX and 425 DX News How's DX?

ar

Adelaide-Anchorage 30
First F 0-5 Short 12466 km

Brisbane-Lima 122
First F 0-5 Short 13056 km
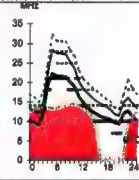
Adelaide-Budapest 305
First F 0-5 Short 14908 km
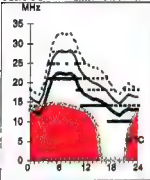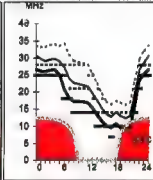
Brisbane-London 147
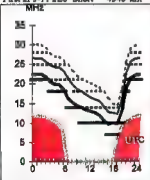First F 0-5 Long 23496 km
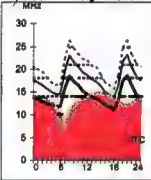
Canberra-Lusaka 239
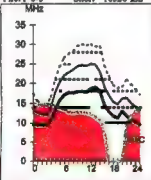Second 4F3-5 4E(Short 11620 km

Darwin-Honolulu 65
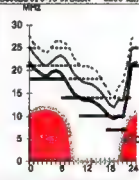Second 4F8-14 4I Short 8635 km

Adelaide-Suva 75
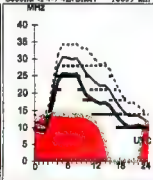First 2F5-11 2EO Short 4340 km

Brisbane-London 327
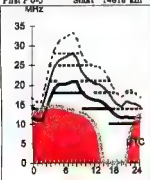First F 0-5 Short 16526 km

Canberra-Manila 327
Second 3F8-15 3I Short 6286 km

Darwin-Johannesburg 241
Second 4F4-7 4E(Short 10639 km

Adelaide-Warsaw 312
First F 0-5 Short 14816 km

Brisbane-Seattle 44
Second 4F2-6 4E(Short 11846 km
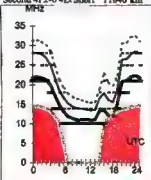
Canberra-Ottawa 59
First F 0-5 Short 16100 km
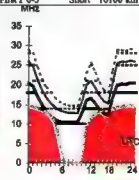
Darwin-Wellington 135
Second 3F11-15 ? Short 5322 km
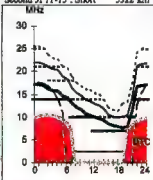
Hobart-Capetown 220
Second 4F5-8 4El Short 10026 km

Melbourne-London 131
First F 0-5 Long 23118 km
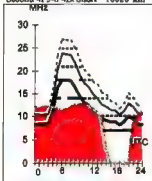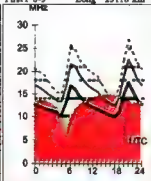
Perth-Kuala Lumpar 336
First 2FE-14 2E0 Short 4179 km
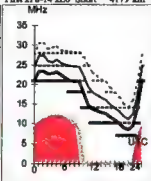
Sydney-Los Angeles 61
First F 0-5 Short 12075 km

Hobart-New York 80
First F 0-5 Short 16609 km
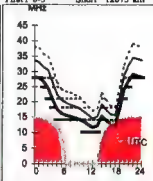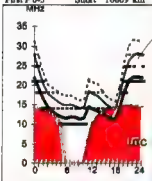
Melbourne-London 311
First F 0-5 Short 16906 km
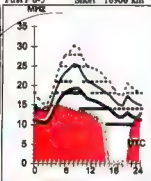
Perth-RiodeJaneiro 203
First F 0-5 Short 13523 km
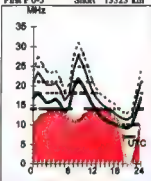
Sydney-Rawalpindi 139
Second 4F4-9 4El Short 11066 km
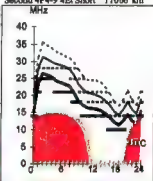
Hobart-Port Moresby 360
Second 2F11-14 2 Short 3710 km

Melbourne-Pretoria 234
Second 4F5-8 4El Short 10353 km

Perth-Stockholm 144
First F 0-5 Long 26577 km
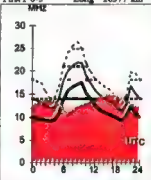
Sydney-Santiago 145
Second 4F3-5 4El Short 11347 km

Hobart-Rome 284
First F 0-5 Short 16350 km
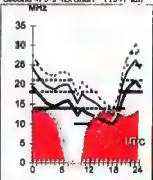
Melbourne-Tokyo 356
Second 4F9-15 4l Short 8191 km
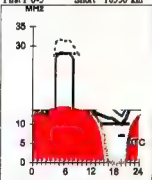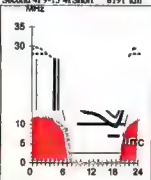
Perth-Vancouver 50
First F 0-5 Short 14823 km

Sydney-Singapore 298
Second 3F8-13 3l Short 6296 km
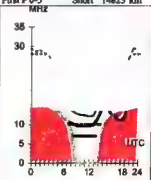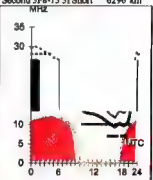
David K Minchin VK6KK
Postal: 10 Harvey Cres. Salisbury Heights, SA, 5109
E-mail:tecknolt@ozemail.com.au
Web page: http://members.ozemail.com.au/~tecknolt
Fax: +61 8 82924501
Phone: 0403368066 AH ONLY
All times are in UTC.

50 MHz

John Martin VK3KWA reports: a new 6-metre beacon in Nauru will become QRV on 9 September. Details are:

Callsign. C21S1X
Location Memen Hotel, Nauru
Locator: RI39LL
Frequency: 50.038 MHz
Mode. FSK 170 Hz shift
Power: 20 watts
Antenna: dipole
Reports to. C21RH@internode.on.net
Details and photos at www.users.on.net/c21s1x.htm

Current site is temporary - a move is planned to a better site with a better antenna. Information supplied via Peter C21TA. John VK3KWA

Bevan VK4CXQ reports: I guess some news is better than none! At last some signals from up north but mostly from JA land. The QSO's occurred late July and early Aug and included most JA districts. Also in the log are 2xHLs and a 6K2. In all 40 QSO's. It's been very quiet since then but could pick up with the KCJ contest this weekend. Nothing from the Pacific areas or America-yet QSL cards from JY9NX, TA1AZ, D44BS, DL's and quite a few from Japan.

Tony VK4CH reports: Last night 21/8 08.30Z 6 m was open from my QTH in Hervey Bay to JA. HL etc. Signals were 5/9+20 ++++ Hopefully this is the beginning of another great 6 m season. On 22/8/2002 6 m was again open to JA etc Signals were not as strong and only 11 stations worked Opening lasted from about 7pm to just before 8pm local Call areas 1,2,3,5 & 8

Mike ZL3TIC reports: Over the past few weeks the ZL3SIX beacon has been off air due to maintenance and building access from today it is all back on. Look forward to any reports.

Frequency 50.040 MHz Also do not forget the ZL3TEN beacon on 28.228 MHz. Mike ZL3TIC

144 MHz & Above

Gordon VK2ZAB has been posting his daily contacts on various modes on the VKF reflector so the bands aren't exactly dead but contributions for this part of the column are zero this month. As punishment I have published more than the usual amount of microwave information!

John VK3KWA reports: Please note the dates for the Spring Field Day: November 2 – 3, 2002. The Summer Field Day is normally held over the final weekend of the Ross Hull contest. The Ross Hull Contest will run from December 26 2002 to January 12 2003 placing the Summer Field Day on the weekend of January 11/12 2003 ... John VK3KWA.

Digital "DX" Modes

FSK441

Ian, VK3AXH, Jim, VK3AEF and Rex, VK7MO have been testing the performance of single tones compared to a 100 ms message necessary to send two call signs and a report Single tones gain an advantage of 10 db due to the use of narrower bandwidth and a further amount that varies with distance due to the shorter period required.

The theory suggests the overall benefit should be around 24 dB at 630 km falling to around 14 dB at 2000 km. This is equivalent to an increase in the number of correctly decodable signals of 15 to 1 at 660 kms falling to 4 to 1 at 2000 kms. The tests confirm the theory and demonstrate the significant advantages in completing a QSO with single tones They should, however, only be used after both call signs have been exchanged both ways and off the focus frequency.

Stations active this weekend (31/8 2002) were, VK2FZ, VK2AWD, VK3HY, VK3AXH, VK3AEF, VK4TZL, VK5DK and VK7MO.

WSJT "EME Echo" Mode

K1JT's, Joe Taylor's web site tells of a new mode for checking EME performance coming shortly.

"The long promised "EME Echo" mode in WSJT will be ready for release soon. In this mode WSJT transmits a tone of known frequency for 2 seconds, waits for the echo from the moon, and receives for 2 seconds, repeating the whole cycle every 6 seconds. The return echo is analyzed, integrated, and presented as a *spectral plot.* Doppler shift is accounted for, and birdie-evasion techniques built in. This mode should be a very useful tool for evaluating one's station. The example plot (on site) shows the echo return from my own station using an FT-847 barefoot. The power output was 30 watts at the antenna (4 x 9 el yagis, no elevation control). The integration time was 22 minutes, the EME path degradation 2.9 dB, and the measured signal level –37.6 dB relative to the noise in a 2500 Hz bandwidth."

JT44

Bob, ZL3TY, has been getting good results with his new 4 bay yagi on two metre He has worked DF2ZC and has been seen getting close with a number of other EU stations

Mike VK2FLR reports from the EME conference as follows: A session moderated by G3SEK at the Prague EME Conference supported the following calling frequencies for JT44 on EME as follows 144.160 MHz, 432 044 MHz & 1296.044 MHz. Note that these are for EME only and are subject to final determination by the IARU. This should not affect the arrangements you and VK3KWA have worked out for VK, which seem to be working well.

Joe Taylor is pleased to hear about the level of WSJT activity in VK and ZL. He will soon be releasing the EME echo test add on to JT44 and is working on a coherent detection scheme for JT44 which will double the advantage of signal repetition from the current 1 5 dB to 3.0 dB Rex VK7MO

Microwave Round up

Looking around on Ebay for microwave bits turns up some interesting items now and again. For one reason or another I have been looking at things that connect to WR-42 waveguide to build a second 24 GHz transverter. This has turned up a number of items including flexible waveguide, circulators, flanges, mixers and antennae

Antennae generally aren't of overseas much interest as 99% are overseas making freight prohibitive but one vendor in NSW has had on offer 330mm & 660mm dishes with 23 GHz feeds in the past month These are ex commercial link dishes with chaparral feeds terminating in WR42 through the centre of the dish. I grabbed one of the 660mm dishes. The 330mm dish would probably be more manageable for general 24 GHz working (i.e. not as sharp!) and cheaper to freight around Australia.

The dishes come with a radome and cover. Unless you are thinking of using the dish as originally intended (tower mounted) the radome is surplus to requirements. I removed the radome just leaving the dish and feed assembly ... reducing the weight to about 5kgs. I mounted the transverter box on the rear flange (about 250mm diameter). The end result is reasonably solid 660mm dish with 38dbd gain. The 3.2mm Aluminium material and 25mm wide perimeter lip is rigid enough to keep the reflector true. As the material is soft alloy I have put a length of automotive "edge capping" around the rim, the sort of stuff used around doorframes on cars.

The feed shows a plotted return loss of better than 25db from 21.2 – 23.6 GHz. In comparative tests the return loss is still better than 20 db 500 MHz higher making it perfect for 24 GHz use. For more information email.

whimp1@shoalhaven.net.au

The following will explain how some overseas events end up with so many goodies are door prize give aways! Stan WA1ECF reports ..."Microwave Update 2002, 24 25 26-27 October in Enfield CT is shaping up to be the major event this year for ham radio Microwavers as well as VHF and UHF enthusiasts.

I am expecting 250 to 300 people from around the world. As the Door prize Chairperson, I am asking each of you to contribute to the success of this national event. Does your employer manufacture or distribute items of interest to hams?

If so who do I contact to solicit a donation? Name, telephone number, email address would be handy.

Does your employer have excess inventory that will only be put in the dumpster? If so, ham radio usable items could be donated. Have you made a special printed circuit board with published articles? If so consider donating a few PCBs or kits. Do you deal with part vendors or sales representatives on ham radio usable items? If so, hit up these local folks for a donation. Stan, WA1ECF. For more details of the 2002 Microwave update, next month please go to http:// www.microwaveupdate.org/

We don't have many 10 GHz beacon's in VK unfortunately ... VK5VF is currently in between sites as the tree's around the original Mt. Lofty site have grown too high! From overseas, however, the following details of a new 10 GHz beacon installed at the QTH of W3LPL in Glenwood Maryland (20 miles north of Washington DC) in FM19LG are of interest. This beacon features a CW store and forward processor to help amateurs verify that their 10 GHz systems are working!

TX frequency: 10368.300 MHz nominal

TX power out: 20 mW

TX antenna gain: +12 dB to -3 dB (variations due to proximity to tower)

Ground elevation: 600 feet above sea level

Height above ground: 190 feet

Receiver frequency: plus or minus 3 kHz from beacon TX frequency

Receiver sensitivity: -106 dBm

The beacon oscillator is a Frequency West brick. Typical drift has been about plus or minus 2kHz. To access the beacon receiver point your antenna at W3LPL (FM19LG) and tune in the beacon in CW mode. Set your transmitter to transmit CW 3 kHz below your receive frequency. You can transmit to the beacon any time it is not IDing or repeating back another signal. Send a minimum of 5 or 6 characters, a maximum of less than 12 seconds of CW. The beacon will repeat your CW (keep it under 40 WPM) followed by your signal strength in dBm (the minus before the number is left off). This means that smaller signal strength numbers are stronger signals.

The acceptance bandwidth of the receiver is about one kHz. With a little practice, you can figure out what TX offsets will work for you. For those with good receivers, you will need to have 40 dB of receiver S/N before the beacon will hear you that is a strong signal!

If you hear the beacon repeating garbage, one of five things is likely happening: It's raining at W3LPLs QTH (local rain scatter) Or the wind is high at W3LPLs QTH (vibration noise) or somebody is trying to send SSB or FM through the CW detector (IT WON'T WORK) The beacon receiver is a little noisy at times and will occasionally capture random noise. Most of those events lead to "104" or "105" signal levels (very weak)

My thanks to Frank, W3LPL for the use of his tower and to Craig, WA3TID for ground crew duties in the blazing heat. Mike, W3IP

In closing

It seems that an experienced model aircraft enthusiast, Maynard Hill, has been trying to fly a model from Newfoundland to Ireland He has tried 3 times and has now aborted the 4th and final attempt.

Maynard holds a number of model aircraft records, including altitude of about 26,000 feet. This aircraft, which could only be considered a model if it was under 5 kg, was duplicated 4 times. Each model has had radio control, a GPS receiver, a batch of digital control, the usual aircraft controls of elevator, rudder, aileron and flaps and a satellite transceiver so that the launchers could "see" where it was. It sent location, airspeed, altitude, and temperature, as well as engine RPM Half the weight was model, the other half fuel.

The first two ditched fairly close to his home, but TAM3 (Trans Atlantic-Model) seems to have flown about 750km or about 25% of the total distance! For further info go to http:// tam plannet21.com/

Doug's VK3UM's radiation calculator program, as demonstrated at GippsTech 2002 in July is now available for download at http://www.qsl.net/ sm2ccw

I'll leave you with this thought . "Middle age is when you have a choice of two temptations, you choose the one that will get you home earlier"

73s David VK5KK

ar.

Silent Key

Vic (Vincent) Noble VK5AGX

After a long illness Vic Noble VK5AGX passed away on 28th February 2002 at the age of 87.

In 1984 he won the HF Contest Championship Competion for outstanding performance. Vic wrote many articles on his experiences. The original publication of the attached is not known.

Laurence Of Arabia (AC Shaw) RAF CALSHOT, 1934
by Vic Noble

On completion of recruit training at RAF Uxbridge in late 1933, I was posted to RAF Calshot in February 1934, and following the usual selection interviews found myself a member of 201 Squadron

My immediate responsibilities as a wader, especially under winter conditions, made me more determined to hasten my application requesting a Wireless Operators' course. Having previously served in the RAF Special Reserve, (1932/3) as a W/Opr with 502 (Ulster) Bomber Sqn at RAF Aldergrove, I convinced the Station Signals Officer that I would be an asset to the Sqn radio personnel, and to my delight an internal posting earmarked me as a W/T W/Opr awaiting a course at the Electrical & Wireless School RAF Cranwell

I already was in possession of a Marconi Marine Radio Certificate, having sat for same at the Belfast School of Telegraphy early in 1932. Whilst serving with the Special Reserve I was selected with a regular W/Opr and Cpl to set up a temporary receiving station at Londonderry (NI) with instructions from Air Ministry to receive Met reports and other information pertaining to the flight of General Balbo's fleet of Savoia flying boats on a cruise to America for the Chicago World Fair.

The twin-hulled Italian monoplanes made a great impression, especially on the five Southampton crews when they arrived at Londonderry from Oban to welcome the Italian visitors. I believe 201 Sqn used Oban as an exercise base.

These two factors apparently influenced the powers that be when I was summoned to the Sigs Officer's office and told providing I passed a high-speed morse test I would be immediately employed at the Station Met Office receiving Met reports (Synoptics), as the civilian W/Opr had been taken seriously ill and would be hospitalised for some time.

I passed the test with flying colours and with the Sigs Officer proceeded to the Met Office for an interview with the Senior Met Officer. The job entailed shift work with transport provided from the domestic site (both ways). Further "perks" included excused all duties, parades etc and, needless to say, the envy of all my hut mates and the SWO!

Whilst working at the Met Office I had the great honour of meeting Lawrence of Arabia, who visited the office when working on the high speed launches and requested weather reports over all the waters in the Solent and around the Isle of Wight. He never spoke much but would sit opposite me gazing at the lines of figures that I would be writing and awaiting the "break-down" of the synoptics by the Met staff.

Some days he would be in civilian clothes, other days attired in scruffy and oil-stained uniform. He would take from his pocket crumpled up pieces of paper, with diagrams and write down a few words

The first day he saw me tuning the receiver, he enquired from the Met officer why I was taking the synoptics and was obviously disturbed at the news of the civilian's illness! Some days if I happened to call at the NAAFI canteen, Shaw would also be ordering a "Tea & Wad", give me a wink and retire to a corner to read a newspaper.

Orders were promulgated in Daily Routine Orders to the effect that All Ranks were reminded to refrain from speaking with AC Shaw. You would only speak if and when Shaw spoke to you. I believe Shaw was also aware of this frequently promulgated order. To see an officer salute an aircraftsman FIRST, as happened when he would be walking around the base, was something "out of the blue" yet taken for granted!

I might add that whilst serving with No. 6 Sqn detachment at Semakh on the shores of Lake Tiberias (tented accommodation) in 1938 we had the privilege of daily visits to the Trans-Jordan Frontier Force camp nearby and made very welcome in their All Ranks canteen. One of the walls was a very large portrait of their beloved and trusted friend Lawrence of Arabia in his full Arab dress and most impressive. Apparently, or so we were told, on special nights a toast is drunk to the Great Man

Silent Keys

David Jessop Parry, VK2CX

It is my sad duty to record the passing of David VK2CX at his home in Mollymook, after a long illness. David was born in Sydney in 1921 and was educated at Penshurst, NSW. He was employed by CSR Ltd as an Electrical Engineer and served in the RAAF in New Guinea and the Islands during WW2. When David resumed his previous occupation he and Judy lived in Melbourne and Sydney until they retired to Mollymook in 1979.

Largely due to the influence of John VK2BTQ and Frank VK2HQ (now also silent keys), David gained his amateur licence in 1981 as VK2CDP. He was a tireless worker for the Mid South Coast Club from that date until his death.

At the request of the family of his long-time friend Jack Evans of Nelsons Bay, David took over the callsign VK2CX in 1996. David was truly one of nature's gentlemen, a devoted family member, a keen sportsman and a person who was ever ready to offer a helping hand

He is sadly missed by all who knew him.

From Stan Burke, VK2EL
Secretary, Mid South Coast ARC

The WIA regrets to announce the recent passing of:-
A J Cooper VK3VZV

Over to you

Academic costcutting is an opportunity to awaken amateur radio interest.

For me, a retired academic, engineering students should be taught to weave theory and practise to produce working products within time and cost constraints. Of late academia is changing in a way I believe is detrimental.

Let me explain. Staff reductions have increased workloads and since laboratory sessions require greater effort and resources they are the first to suffer.

Equipment is expensive, needs maintenance and constant checking to ensure OH&S requirements are met. The cost of building space means cutting down on laboratories and the disposal of all surplus equipment and components, including technology museum areas. Public liability insurance costs have increased, so practical sessions using rotating machinery or high voltages are frowned upon.

Thus the current trend in many universities is to narrow teaching and research to theoretical and system aspects, replacing practical work by computer simulation.

While simulation methods are essential, so are the hands on aspects of engineering, else students know little about practical issues such as, parasitic oscillations, some capacitors are polarity sensitive, what is inside an IC or how to achieve high reliability soldering.

Perhaps this trend provides an opportunity for the WIA to give support to tertiary educational establishments (I gather TAFE has similar problems) and at the same time interest students in amateur radio.

Since universities are concentrating on system design, project work is mainly writing software and purchasing modules and assembling them into systems. The WIA could help at the module level, using proven amateur radio designs.

For example, I was pleased to see VK2DSH's microwave signal source appear in a recent AR as it provided help for an RF source in a university experimental synthetic aperture radar project.

One could also tap into the many professional kits available from US clubs, students assembling and using them in novel and interesting ways, all part of the learning process.

University library funds are also limited and often the first periodicals to go are the practical ones; my University canceling subscriptions to QST and Elektor. Is this another area we can assist - complementary issues of AR?

How WIA co-operation is achieved will vary from institution to institution; a student Comms. Club, a micro satellite interest group, participation in final year student projects all possibilities. Whatever is done has to be well done - relevant, practical, professional and with enthusiasm.

I suggest that ideas from all Divisions be shared. Gaining student interest in our hobby is only one of several benefits, for I am sure that in return both graduates and academic staff would be willing to professionally support us, including writing papers for AR and giving talks at meetings. Above all industry will get better graduates.

Malcolm Haskard VK3AXA

Sunspot Numbers

Monthy average Jul 2002 108.6
Smoothed Sunpot Number Jan 2002 113.5

Drawn from monthly data provided by the Ionospheric Prediction Service
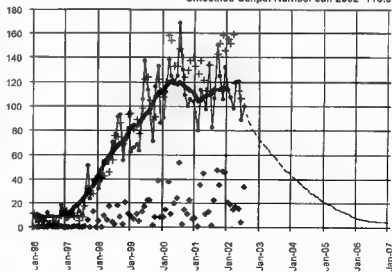
Legend: Flares > M1 · · · · T index · · · · SSN · · · · Prediction · · · · Sunspot Number · · · · Current Cycle 23

HAMADS

FOR SALE NSW

KINGSLEY radio receiver model KCR/11, **UNIVERSITY** radio equipment valve tester model TS1, both units condition unknown, ex VK2AZW. Offers to VK2BKG QTHR. Buyer to collect.

COLLINS 30l-1 amp in good condition $850 email vk2co@yahoo.com.

Estate of the late David Parry VK2CX. (Sadly another South Coast Silent Key) **NABU KEY** with **VALESI RFS00A SWR/WATTMETER** 400 4000W, fair 50 **TRIDIPPER** Ts18 Dip Meter, complete, as new $50. **OMEGA-T Antenna Noise Bridge** $25 **HEATHKIT IM2B VTVM**, 240v, probes, manual $50. **REVEX S20** 2-way co-ax switch DC-1GHz $20. **DAIWA CS201** 2-way co-ax switch $10. **POWER SUPPLY, HB**, 13.5V 15A well-made $50 **ARRL Handbook 1984**, fair $10 **ARRL antenna book**, 2000 as new $20 **WIA Callbook 1992**, free for postage. **RADIOTRON Designer's Handbook**, 4th Edition, collectors, fair $40 Serial numbers available. Transmitting equipment to licensed amateurs. All prices ONO. Stan Bourke VK2EL QTHR (Ulladulla) Phone 02 4455 5825 sbourke@shoal.net.au

WANTED NSW

Circuit manual or any info on **YAESU FRT-770** Happy to pay any costs plus. Cliff, Phone 02 6572 3789 or cford@symplec.net.au.

Can anyone help with any or all of the following: (1) **Circuit of HP 410C VTVM.** (2) **Receiver 0.5 to 30 MHz** (tidy digital readout for SWL. (3) **Coil box AR-7 Band A** Buy or swap for Band E coil box. QTHR or Phone 02 9791 0366 VK2ACV

Headphones YAESU or KENWOOD brand. Must be good condition. Please state model. Collin, VK1LV. QTHR. Phone 02 9363 4581, cbm@zip.com.au.

Four way coax antenna switch. Up to 30 MHz at 100 watts. Noel VK2BCA, Phone 02 4977 3449. email nollaig@acay.com.au.

Service manual for a MARCONI AM/FM Signal generator Model TF995A/3. All costs met. Adrian Clout VK2BFN Phone 02 4758 6797, 0408 604 366 adrian_clout@storagetek.com. vk2bfn@vk2wi.net

FOR SALE VIC

Handbooks A-610 plus circuits and service instructions. G.C $15, poor condition $10 **Yellow band No. 22** handbook with circuits G.C $12 **Manual AT5/AR8**, fair condition $25 **Manual** with circuits, fair condition **SCR536/ BC6N** $8. **User handbook C42** G.C $6. All plus pack & post. Rodney VK3UG QTHR. Phone 03 5825 1354

Linear FL4100B V.G.C. Original packing box, valves OK $575. **Transverter** 10 m - 40 m - 80 m with 100 watt output and exciter $250. **Boom 10 m 3 element** heavy duty with balun $75. **Prop pitch motor** with 3 transformers $210 **FT-747** in VGC original carton & accessories $550. VK3CX Phone 03 5422 2860.

Quad made in USA 4 bands made of alum fib glass. Freq are 28MHz, 21MHz, 17MHz, 14MHz, set up, will help to dismantle $500. VK3FJ, Phone 03 5672 2722 Wonthaggi.

ICOM IC-T8A H/held 6m, 2m & 70cm. Serial No. 001084, EC w/w NiMH & drycell batt pack, leath. case & speaker mic $375.00. **IC-Q7A** Handheld 2m & 70cm Serial No. 003191, EC wideband Rx 30-1310MHz. leath case $185.00 David VK3YLV QTHR Phone AH 03 5382 4000

HEWLETT PACKARD Distortion Analyser 330C S/N 246 10064. Contains 2 speed geared vernier dial in cast frame with 4 gang 450pF (approx) tuning capacitor. Ceramic insulation Eleven valves, 6SJ7, 6J5, etc,

100mm square front panel meter Many switches, knobs, etc. Typical top quality **HP** construction, $35 ONO John VK3GF QTHR Phone 03 5562 5545, email johnc@ansonic.com.au

WANTED VIC

JOHNSON VIKING 500 transmitter and handbook (circa 1957) **JR Radio Service handbook** VII series 1964 **Instructions for valve tester TMS T-36B No 128 Army transceiver and handbook** Rod Champness VK3UG QTHR Phone 03 5825 1354

External controller for an IC-701 type IC-RM2 Ian VK3JQ Phone AH 03 5428 7384, BH 03 9338 0344 or vk3jg@netscape.net.

ICOM TV-1200 ATV adapter in good condition. Ian VK3ZBI QTHR Phone 03 9598 5362.

Valves 12BY7A, S2001A, 6146, a transceiver **KENWOOD TS-520, TS-820 or TS-830** VK3CEF QTHR Phone 03 5338 1927.

RF section for FRR-59A receiver The missing half of this radio must be out there somewhere! Please help. Morris VK3DOG Phone 03 9824 8998.

Circuit Diagram or handbook relevant to BWD Sine & Square Wave Generator Model 112B. Also Volume 1 of **The Admiralty Handbook Of Wireless Telegraphy 1938.** VK3WG BH Phone 03 9596 1914 or Fax 9598 8337 or email ghq@hyperlink.net.au.

Very desperately seeking for Wireless Set No 11: One three pin male chassis power socket (triangular pattern with two big pins) and two female plugs to suit A PRESS TO TUNE switch (S5A) and PULL FOR RC switch (S6A). Rectangular black bakelite front panel jack cover (the one with 3 holes labelled PHONES and LINE). One nameplate for LP PSU. One PSU case with or without power supply chassis (HP or LP unit), **For my R-1155 Rx** the big dial knob. Clem VK3CYD Phone 03 5225 2064 clem@dcsi.net.au.

FOR SALE QLD

A bargain for someone: **ICOM-R75** receiver. Under warranty until Christmas $1200. Jim Phone 07 4157 2287

2 x 3-500Z brand new EIMAC USA $250 00 ea. **Oscilloscope HUNG CHANG OS 620** never used $450.00 **MIRAGE 2 m 30 watt** linear Exc. Cond. $50 00 **KEN Rotor KR-800** complete VGC $300 00 **KENWOOD TN-241A** 2 m rig (50 watt) as new $350.00. **ASTRON RS12A p.s.** 13.5 V x 12 A, exc. cond $250.00 Reg VK4XH Phone 07 3219 7842 rhardman@bigpond.net.au

6 metre Linear Amp. TOKYO Hi-Power 1KW with pair good 4CX250B's PLUS spare pair of NEW tubes c/w handbook and circuit $850 **IC-505** transceiver, 12 watts out, will drive above amp $250 Wally VK4DO, Phone 07 4788 8462, vk4do@ballyhoo.com.au.

WANTED QLD

TAIT VHF high band transceiver, one or more for non-commercial project. **Model T636** preferred but other models considered Bill Pickering VK4WP, 10 Marina Pde, Ingham 4850 Phone 07 4776 1718 Email wpickering@ozemail.com.au

UHF SWR meter good to 70cm VK4ANR, Phone 07 4783 3398 or email mirigien@austarnet.com.au

- **COLLINS 3251 (or S2 or S3) Transmitter.** Prefer with 516F-2 ac power supply. John VK4VK QTHR. Phone 07 5538 1759, email: tenalu@dodo.net.au

- **Workshop manual for FT-890.** Will pay for photostat and all costs involved. VK4DV QTHR any call book.

- **Schematic for HITACHI V152B Oscilloscope.** Please contact me at frankwinter@optusnet.com.au or PO Box 198, Buderim, QLD 4556. VK4BLF

FOR SALE SA

- **YAESU FT-77** FT txovr Solid-State 100 W base/mobile 80 m-10 m WARC bands, mobile cradle. **DAIWA CN-520 swr/power** X-needle meter & **YAESU MH-1B8 mic.** $365 s/n 3C021759. **YAESU FP-700 13V30A** matching power supply (ne.blt/in spkr.all cables & manuals all vgc orig.packing. $195 s/n 3C020575. You collect. Ron VK5SD QTHR Phone 08 8337 8540. Mobile 0401371263 Email rsamos@chariot.com.au

- To whom it may be of interest in the Adelaide Metro area: **4 very good morse tapes** to be **GIVEN away** to someone on 80 m. I have acquired 5 tapes but only require one. Phone me at around 1800 hours any day. Phone 08 8294 6906. A genuine offer to be of assistance to somebody. M.M. Gell VK5ZLC QTHR

WANTED WA

- **ICOM SM-6 desk mic:** Veso VK6VAS Phone 08 9964 2385 or email: vk6ves@westnet.com.au

MISCELLANEOUS

- I have a **20B set,** a standard military HF transmitter-receiver using 1.4 V octal tubes made by Radio Corporation, Melbourne in 1943. I am interested in the **history of these units** (i have the manual and technical info) and would be very interested to receive any anecdotes or other information on their specification, design, manufacture and deployment during WW II. I can be contacted by email: bjk@ihug.co.nz Barry Kirkwood, ZL1DD

MISCELLANEOUS

- The WIA QSL Collection (now Federal) requires QSLs. All types welcome, especially rare DX pictorial cards, special issue. Please contact the Hon Curator, Ken Matchett VK3TL, 4 Sunrise Hill Road, Montrose Vic 3765, tel. (03) 9728 5350

HELP WANTED

MARKETING RESEARCH

We are now distributing *Amateur Radio* through the news-stands. If you have internet (for ease of response) we would appreciate it if you could check your local newsagents and ask if they carry it, and if they do, do they sell it out? If you have a local electronics shop who might be interested in carrying it as a counter sales item, that address would also be helpful.

email the info, whatever the answers, along with your postcode, to John at

captnnemo@ozemail.com.au

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For all RF applications. Send business size SASE for details/price to RJ & US Imports, PO Box 431, Kiama NSW 2533 A 3.5" PC disk containing all data is available for $5.00 incl. post.

www.catchnet.com.au/-rjandusimports

Agencies at: Active Electronics Tas; Truscotts Electronic World, Melbourne; TTS Systems, Tyabb; Tower Communications, Perth; Haven Electronics, Nowra.

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Radio Old Timers Club Of SA

ANNUAL LUNCHEON

The annual Luncheon will be held on
Thursday 24th October 2002
(12 noon for 12.30 for lunch)
at the

Marion Hotel
Main Road, Mitchell Park

RSVP to one of the following committee members before 20.10.02

President : Jack Townsend VK5HT
Phone 8295 2209
Secretary: Ray Deane VK5RK
Phone 8271 5401
Asst.Secretary: Ron Coat VK5RV
Phone 8296 6681

Public Transport : Bus 243 Stop 24
Ray Deane ,Honorary Secretary

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"Hey, Old Timer..."
If you have been licensed for more than 25 years you are invited to join the

Radio Amateurs Old Timers Club Australia

or if you have been licensed for **less than 25** but more than ten years, you are invited to become an Associate Member of the RAOTC.

In either case a $5.00 joining fee plus $3.00 for one year or $5.00 for two years gets you two interesting OTN Journals a year plus good fellowship.

Write to

RAOTC,
3/237 Bluff Road
Sandringham VIC 3191

or call Arthur VK3VQ on **03 9598 4262** or Allan VK3AMD on **03 9570 4610,** for an application form.

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Then we just cut and paste.

You proof it,
you retain control.

Division Directory

The Amateur Radio Service exists for the purpose of self training, intercommunication and technical investigation. It is carried out by amateurs who are duly authorised people interested in radio technique solely with a personal aim and without pecuniary interest.

The Wireless Institute of Australia represents the interests of radio amateurs throughout Australia. National representation is handled by the executive under council direction. There is one councillor for each of the seven Divisions. This directory lists all the Divisional offices, broadcast schedules and subscription rates. All enquiries should be directed to your local Division.

Broadcast schedules All frequencies MHz. All times are local.

VK1 Division Australian Capital Territory,
GPO Box 600, Canberra ACT 2601
President	Gilbert Hughes	VK1GH
Secretary	Peter Kloppenburg	VK1CPK
Treasurer	Linden S Orr	VK1LSO

VK1WI: 3.590 LSB, 146.950 FM each Thursday evening from 8.00pm local times. The broadcast text is available on packet, on Internet aus.radio.amateur.misc news group, and on the VK1 Home Page http://www.vk1.ampr.org

Annual Membership Fees. Full $80.00 Pensioner or student $71.00. Without *Amateur Radio* $48.00

VK2 Division New South Wales
109 Wigram St, Parramatta NSW
(PO Box 432, Harris Park, 2150)
(Office hours Mon-Fri 1100-1400)
Phone 02 9689 2417
Web: http://www.oznmail.com.au/~vk2wi
Freecall 1800 817 844
e-mail: vk2wi@oznmail.com.au
Fax 02 9633 1525
President	Terry Davies	VK2KDK
Secretary	Pat Leeper	VK2JPA
Treasurer	Chris Minshan	VK2EJ

From VK2WI: 1.845, 3.595, 7.146*, 10.125, 14.160, 24.950, 28.320, 29.120, 52.120, 52.525, 144.150, 147.000, 438.525, 1281.750 (* morning only) with relays to some of 18.120, 21.170, 584.750 ATV sound. Many country regions relay on 2 m or 70 cm repeaters. Sunday at 1000 and 1930. Highlights included in VK2AWX Newcastle news, Monday 1930 on 3.593 plus 10 m, 2 m, 70 cm, 23 cm. The broadcast text is available on the Internet newsgroup aus.radio.amateur.misc, and on packet radio.

Annual Membership Fees. Full $80.00 Pensioner or student $63.00. Without *Amateur Radio* $50.00

VK3 Division Victoria
40G Victory Boulevard   Ashburton VIC 3147
(Office hours Tue 10.00 -2.30)
Phone 03 9885 9261
Web: http://www.wiavic.org.au
Phone 03 9885 9258
e-mail: wiavic@wiavic.org.au
President	Jim Linton	VK3PC
Secretary	John Brown	VK3JJB
Treasurer	Barry Wilton	VK3XV

VK3BWI broadcasts on the 1st Sunday of the month at 20.00hrs Primary frequencies, 3.615 DSB, 7.085 LSB, and FM(R)s VK3RML 146.700, VK3RMM 147.250, VK3RWG 147.225, and 70 cm FM(R)s VK3ROU 438.225, and VK3RMU 438.075. Major news under call VK3ZWI on Victorian packet BBS and WIA VIC Web Site.

Annual Membership Fees. Full $83.00 Pensioner or student $67.00. Without *Amateur Radio* $51.00

VK4 Division Queensland
PO Box 199, Wavell Heights, Qld. 4012
Phone 07 3221 9377
e-mail: office@wia.powerup.com.au
Fax 07 3266 4929
Web: http://www.wia.org.au/vk4
President	Ewan McLeod	VK4ERM
Secretary	Bob Cumming	VK4YBN
Treasurer	Bill McDermott	VK4AZM

VK4WIA broadcasts on 1.825 MHz SSB, 3.605 MHz SSB, 7.118 MHz SSB, 10.135 MHz SSB, 14.342 MHz SSB, 21.175 MHz SSB, 28.400 MHz SSB, 29.660 MHz FM (rpt), 147.000 MHz, and 438.525 MHz (in the Brisbane region, and on regional VHF/UHF repeaters) at about 9.5 every Sunday morning. QNEWS is repeated Monday evenings, at 19.30 hrs K on 3.605 MHz SSB and 147.000 MHz FM. On Sunday evenings, at 18.45 hrs K on 3.605SSB and 147.000 FM, a repeat of the previous week's edition of QNEWS is broadcast. Broadcast news in text form on packet is available under WIAQ@VKNET. QNEWS Text and real audio files available from the web site

Annual Membership Fees. Full $95.00 Pensioner or student $81.00. Without *Amateur Radio* $69.00

VK5 Division South Australia and Northern Territory
(GPO Box 1234 Adelaide SA 5001)
Phone 08 8294-2992.
web:http://www.wia5.wia.org.au
email: peter.reichelt@bigpond.com
President	Trevor Quick	VK5ATQ
Secretary	Peter Reichelt	VK5APR
Treasurer	Trevor Quick	VK5ATQ

VK5WI: 1843 kHz AM, 3.550 MHz LSB, 7.095 AM, 14.175 USB, 28.470 USB, 53.100 FM, 147.000 FM Adelaide, 146.800 FM Mildura, 146.900 FM South East, 146.925 FM Central North, 438.475 FM Adelaide North, ATV CH 35 579.250 Adelaide. (NT) 3.555 LSB, 7.065 LSB, 10.125 USB, 146.700 FM, 0900 hrs Sunday. The repeat of the broadcast occurs Monday Night in 1930hrs on 3585kHz and 146.875 MHz FM. The broadcast is available in 'Realaudio' format from the website at www.sant.wia.org.au Broadcast Page area.

Annual Membership Fees. Full $88.00 Pensioner or student $73.00. Without *Amateur Radio* $58.00

VK6 Division Western Australia
PO Box 10 West Perth WA 6872
Phone 08 9246 3642
Web: http://www.wia.org.au/vk6
e-mail: vk6wia @wia.org.au
President	Neil Penfold	VK6NE
Secretary	Roy Watkins	VK6XV
Treasurer	Bruce Hedland-Thomas	VK6OO

VK6WIA: 146.700 FM(R) Perth at 0930hrs Sunday relayed on 1.865, 3.564, 7.075, 10.125, 14.116, 14.175, 21.185, 29.120 FM, 50.150 and 438.525 MHz. Country relays 3.582, 147.200 (R) Carnarvon, 147.350 (R) Busselton, 148.800 (R) Mt William (Bunbury) 147.000 (R) Katanning and 147.250 (R) Mt Saddleback. Broadcast repeated on 146.700 at 1900 hrs Sunday relayed on 1.865, 3.564 and 438.525 MHz : country relays on 146.900, 147.000, 147.200 and 147.350 MHz. Also In 'Real Audio" format from the VK6 WIA website

Annual Membership Fees. Full $71.00 Pensioner or student $65.00. Without *Amateur Radio* $39.00

VK7 Division Tasmania
PO Box 371 Hobart TAS 7001
Phone 03 6234 3553 (BH)
Web: http://www.tased.edu.au/tasonline/vk7wia also through http://www.wia.org.au/vk7
email: bates@netspace.net.au
President	Mike Jenner	VK7FB
Secretary	John Bates	VK7RT
Treasurer	John Bates	VK7RT

VK7WI: 146.700 MHz FM (VK7RHT) at 0930 hrs Sunday relayed on 147.000 (VK7RAA), 146.725 (VK7RNE), 146.825 (VK7RMD), 3.570, 7.090, 14.130, 52.100, 144.150 (South Hobart), repealed Tues 3.590 at 1930 hrs.

Annual Membership Fees. Full $90.00 Pensioner or student $77.00. Without *Amateur Radio* $57.00

VK8 Northern Territory is part of the VK5 Division and relays broadcasts from VK5 as shown, received on 14 or 28 MHz. The broadcast is downloaded via the Internet.

Antenna at VK3MO

Ian Williams VK3MO has always been a big antenna enthusiast. His latest effort is the biggest yet. There are four, four element wide spaced quads stacked with the top one at just under 200 feet. The quads can be selected individually or all four together. Ian calculates the gain at just less than 20dbi.

The entire tower rotates and has a total weight of eight tons. The system works on 20 metres only. It is most likely the biggest amateur antenna in Australia and certainly one of the biggest in the world.

Photographs Ron Fisher VK3OM

ICOM'S GREAT CHAMPIONS